



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

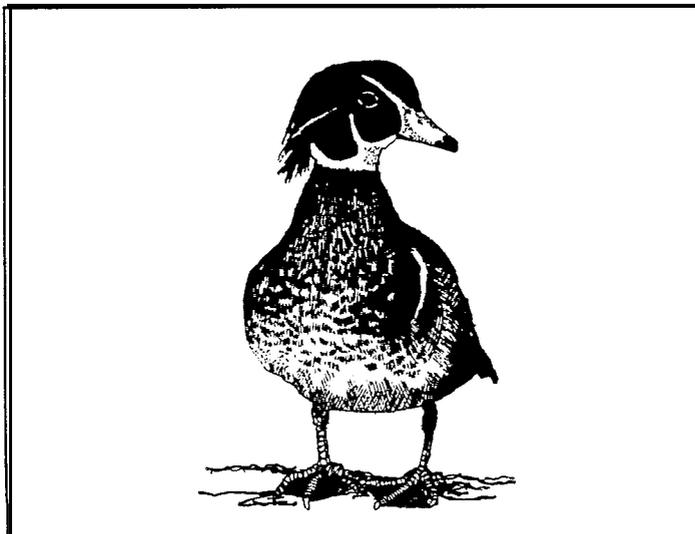
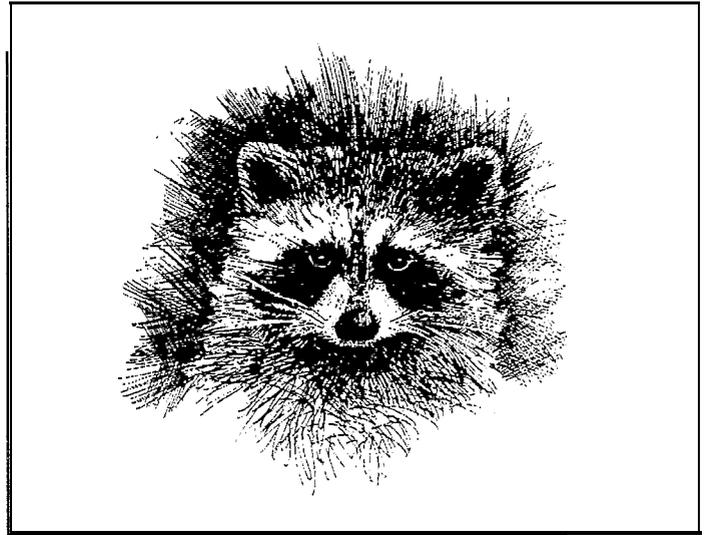
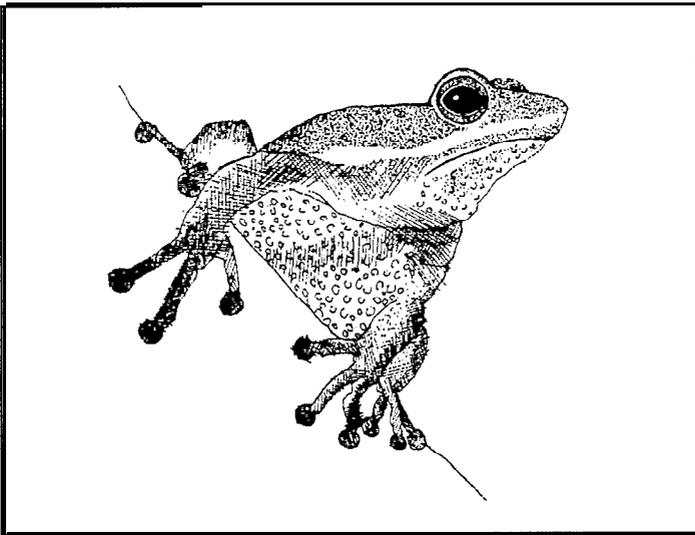
Coos Bay District Office
1300 Airport Lane
North Bend, OR 97459

May 1995



Final

ACEC Management Plan

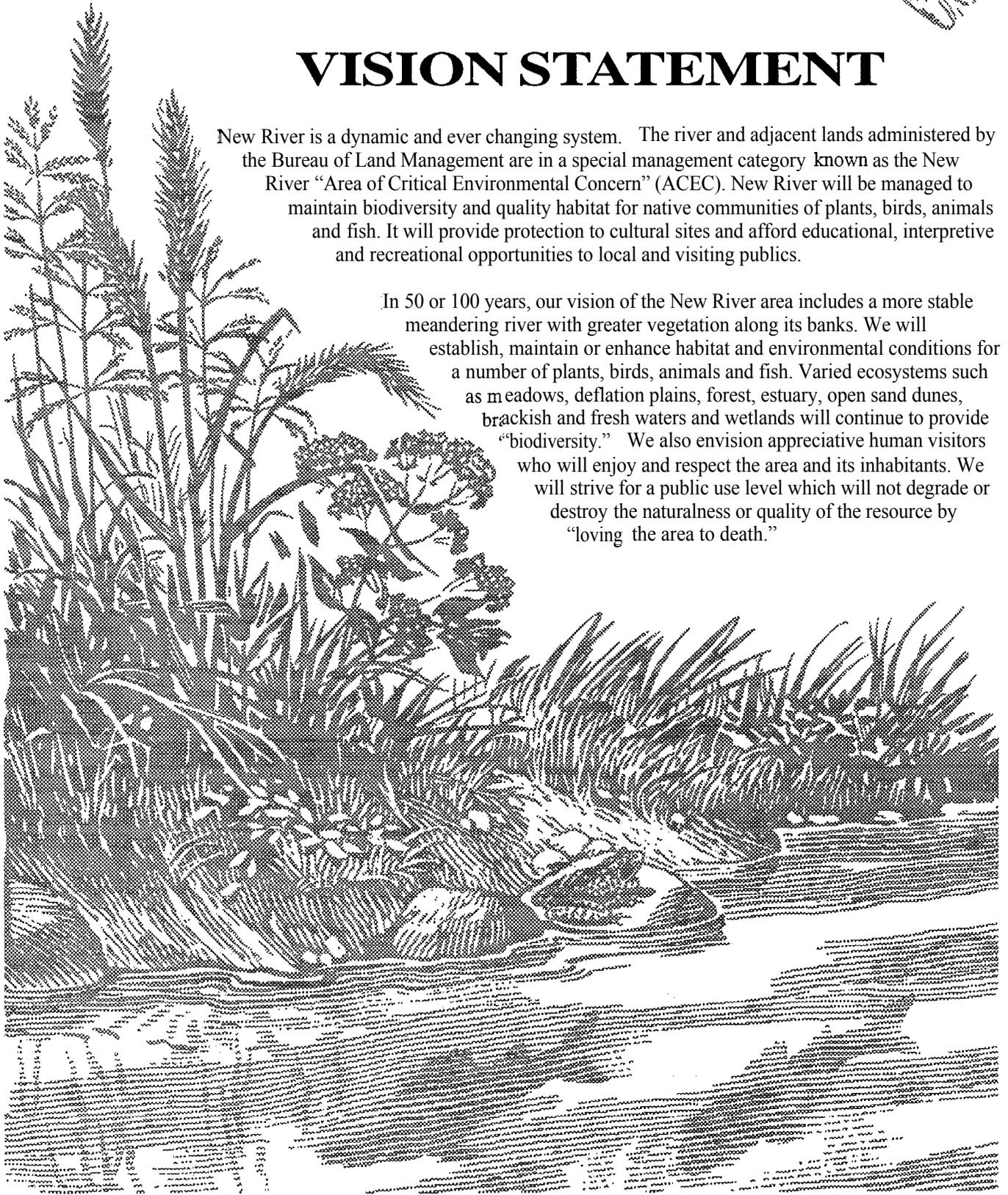




VISION STATEMENT

New River is a dynamic and ever changing system. The river and adjacent lands administered by the Bureau of Land Management are in a special management category known as the New River "Area of Critical Environmental Concern" (ACEC). New River will be managed to maintain biodiversity and quality habitat for native communities of plants, birds, animals and fish. It will provide protection to cultural sites and afford educational, interpretive and recreational opportunities to local and visiting publics.

In 50 or 100 years, our vision of the New River area includes a more stable meandering river with greater vegetation along its banks. We will establish, maintain or enhance habitat and environmental conditions for a number of plants, birds, animals and fish. Varied ecosystems such as meadows, deflation plains, forest, estuary, open sand dunes, brackish and fresh waters and wetlands will continue to provide "biodiversity." We also envision appreciative human visitors who will enjoy and respect the area and its inhabitants. We will strive for a public use level which will not degrade or destroy the naturalness or quality of the resource by "loving the area to death."



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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM/OR/WA/PL-95/016+1792

EXECUTIVE SUMMARY

As Oregon's population and tourism industry grows and more people demand access onto public lands for recreational and educational purposes, it becomes clear that sound management plans are needed for areas like New River. The New River Area of Critical Environmental Concern was designated in 1987 and has been described as "one of the last remaining wild places along the Oregon coast." The goals outlined for the management of the New River ACEC in this 1995 plan haven't changed much since the area was designated and the 1987 plan was developed.

In designing this plan, proposed uses, management decisions and actions were analyzed and weighed against achieving these goals. The goals, which represent the backbone of the plan are listed below. More specific objectives are listed after this summary.

Management Goals for New River

Goal 1 -Manage habitat for biodiversity (a full range of native species, habitats, and ecological processes) and ecosystem health with special emphasis on sensitive wildlife and botanical species.

Goal 2 -Protect significant cultural sites from human disturbance or destruction.

Goal 3 -Manage for recreational activities to the extent compatible with Goals 1 and 2.

Goal 4 -Promote opportunities for education, interpretation and nature appreciation to the extent compatible with Goals 1 and 2.

We feel that this plan provides the foundation for implementing the specific actions needed to attain all the management goals. For example:

- Strong emphasis is being placed on inventory, monitoring and research to provide a vital knowledge base for better management.
- Any major structural developments or facilities will only be programmed after adequate feasibility studies are completed and the need is documented.

- The level of visitor use will be monitored and evaluated to ensure we are not jeopardizing New River’s biological and cultural resources or the quality of visitor experiences.
- More emphasis will be placed on developing partnerships with local and regional organizations, groups and individuals to help manage and implement actions outlined in this plan.
- Interpretation and educational opportunities and experiences will be enhanced.
- Increased and more consistent protection of New River’s resources will be provided through enforcement activities and visitor education programs.
- Anew focus is being placed on taking action to conserve New River’s unique fish, wildlife and plant resources.
- Traditional uses such as fishing, hunting and horseback riding will be maintained as long as they are consistent with the above stated goals and provide for visitor safety.
- Improved coordination and cooperation with adjacent land owners, county governments and local cities will be emphasized.

This plan is divided into five parts. The **Introduction** (part 1) is an overview of the area and the planning process while **the Setting and Resource Values** (part 2) provides an encyclopedic reference on New River. Part **3, the Management Program** is the core element of this document. It describes many actions and operations to be taken by BLM to successfully accomplish these goals and objectives. Among other things, it identifies acceptable recreational uses, trails, access and gating, interpretation, and a series of actions to enhance special status species of plants and animals. Actions to protect cultural and water resources are also discussed as well as actions to enhance relations with neighbors and other agencies. Finally, it defines minimum monitoring requirements for the area and describes essential research needs. **Cost Implementation** (part 4) follows, and shows the costs of the Management Program. The **Appendices** are the final section. They include wildlife habitat maps, a historical chronology, and scientific information about local species.

Objectives

Obj. 1 -Maintain, enhance or restore ecosystem health, and ensure management which supports a variety of habitats at different successional levels, particularly (but not limited to) those which are necessary for the listed special status species using the area.

Obj. 2 -Establish suitable water flow and quality, and maintain riparian/wetland areas in a condition supportive of a healthy aquatic ecosystem.

Obj. 3 -Protect and interpret important cultural and archaeological sites at New River.

Obj. 4 -Accommodate low-impact recreational use at New River while providing a variety of experience opportunities and durations to help meet existing and anticipated demands.

Obj. 5 -Promote an awareness and appreciation for New River’s many resource values, especially those significant to its ACEC designation; also foster a “Leave No Trace” land use ethic and similar attitudes in visitors at New River.

Obj. 6 -Provide adequate use supervision, visitor facilities, services, signing, and programs to protect resources and support planned visitor use activities and levels.

Obj. 7 -Provide reasonable access to visitor use areas and the river with minimal impact on natural/cultural resources and visitor experiences.

Obj. 8 -Facilitate improved management of the New River area through monitoring and research to learn more about the natural and cultural resources of the area.

Adaptive Management and New River

Adaptive Management, a new term widely introduced in the Final Supplemental Environmental Impact Statement on Management Habitat for Late Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl (1994), is gaining acceptance in government agencies. This concept acknowledges the need to manage resources under circumstances that contain varying degrees of uncertainty, and the need to adjust to new information. It provides an avenue for responsive and quick land use actions, if necessary.

The concept can only work if three elements are present:

- 1) Clear goals, standards and guidelines are in place;
- 2) There is a willingness and a process to modify these same goals, standards and guidelines if they are not working or in error; and
- 3) Monitoring and research will be used to help determine the condition of the management unit,

Fundamentally, adaptive management is the application of the scientific principle of feedback and adjustment, of identifying and evaluating new information, and adjusting management to achieve the goals and objectives of a plan. In the case of New River, management approaches can be adjusted quickly to benefit the area as new information and knowledge become available.

Monitoring

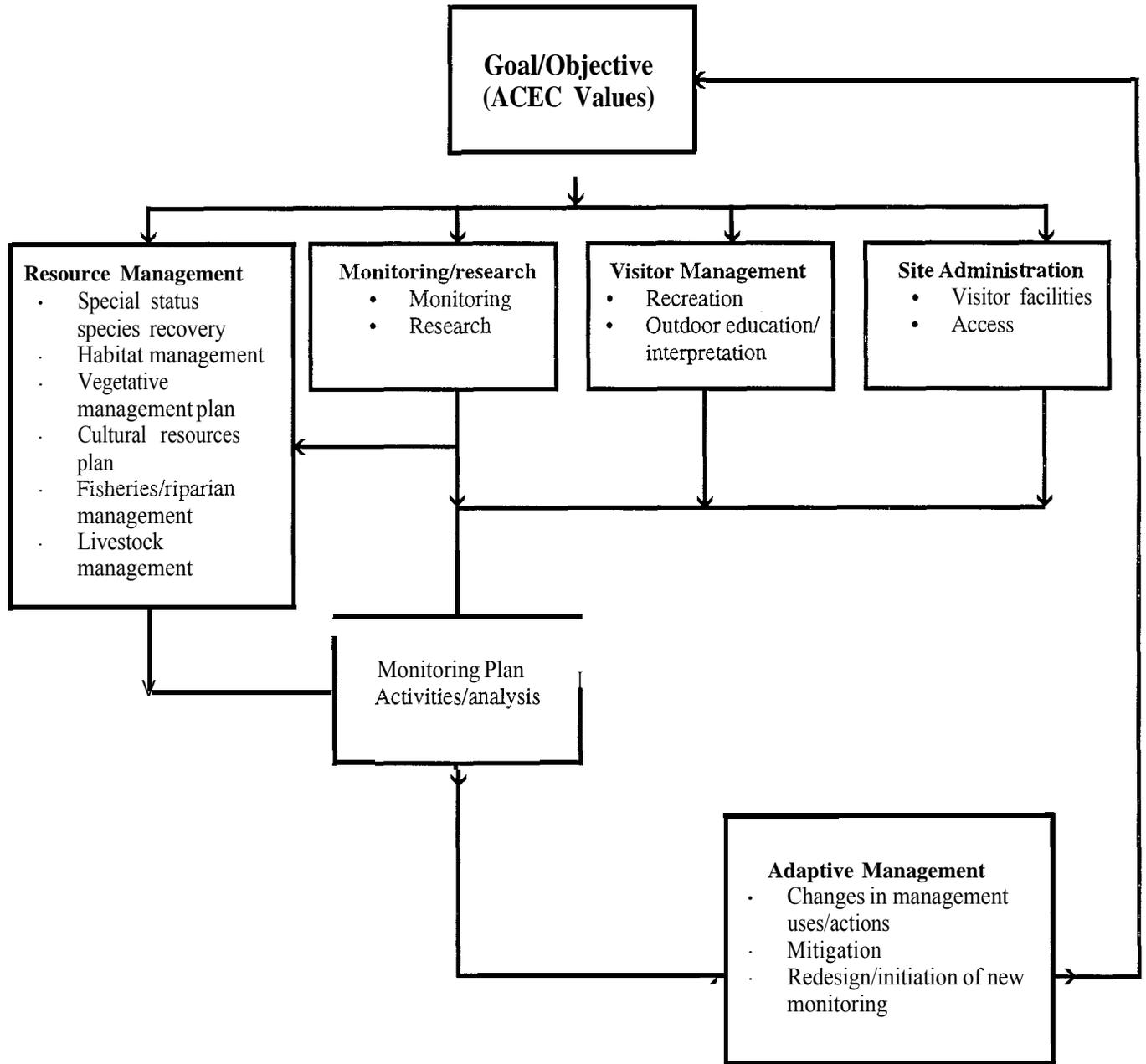
Monitoring is programmed into the New River plan at all levels. This monitoring will be used to:

- ensure that the goals and objectives are being met,
- make sure the management actions are being followed (implementation monitoring),
- verify if the actions are achieving the desired results (effectiveness monitoring), and
- determine if the underlying assumptions of the ACEC's goals and objectives are sound (validation monitoring).

Monitoring will take place in these categories: resource management of fish, wildlife, special status species, riparian/wetland, water and historic/cultural values; livestock management; visitor use management to include recreation, outdoor education and interpretation; and site administration and development for visitor facilities and access. Some effectiveness and most validation monitoring would be accomplished through studies and research.

The Management Program has a special section, which begins on page 3-36, entitled "Monitoring and Research", where specialists have identified knowledge gaps. Monitoring is an important component of adaptive management and will introduce new information (see the next page for a flow chart on how adaptive management and monitoring will work at New River). This information will give a clearer picture of the changing environment at New River and help make management of the area more accountable and responsive.

New River Adaptive Management Process



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To understand the genesis of New River is to appreciate human impact upon the land. Its very existence as we know it today is owed primarily to human influence in shaping the environment. Geologically speaking, New River's history may span just half a breath, little more than a human lifetime. It begins not long after the first white settlers came to the area. While New River's creation occurred mainly by chance, its future prosperity has become a matter of careful design. This plan is intended as a guide for conserving the area through the end of the century.

PART 1 - INTRODUCTION

The Short History of a Young River

In 1851, when John Kirkpatrick led an expedition through the area north of Floras Lake, he described the land bordering the Pacific Ocean as a "great swamp," dominated by large expanses of water containing wet meadow, backwater marshland and spruce swamp. It was then a vast floodplain woven into an interconnecting network of small creeks, lakes and rivers which drained the area.

California's 1849 Gold Rush created a new market for farm goods from the north, enticing settlers to cultivate the rich lands of coastal Oregon. In 1856 the area east of New River was first settled. The new tenants brought with them cattle, dairy cows, sheep and other grazing animals. Dairies and cheese factories, some of which exported world-class quality products to Europe, sprang up along the southern Oregon coast. The discovery of gold on the Sixes River later that year drew

prospectors and more settlers, increasing the local demand for dairy and meat products. This in turn produced a need for more pasture land.

Draining wetlands for farming and grazing was a common practice of homesteaders as they settled the

Western U.S and was soon applied to much of the wetland along the Oregon coast. "Ditching" or digging channels allowed water to easily run off the area, leaving a dry meadow or pasture. The canals or channels carried water much more quickly into tributary streams and eventually the ocean. These activities are still practiced today; many ditches continue to be cleaned and maintained to keep water from ponding in pasturelands.



Main Street of Langlois looking north bound. *Photo Credit: Bandon Historical Society*

According to local lore, New River was born in name and fact during the Great Flood of 1890, a culmination of the rapid runoff of area

streams and channels. Floodwaters washed through Floras Creek, wiping out a number of farms in their wake. As they swept into the lowlands north of the Floras Creek outlet, local rancher Louis Knapp Sr. proclaimed, "It's a new river!" The overflow waters filled in and/or carved out a "new" channel north of the creek, parallel to the Pacific Ocean. The waters then ponded in what was the old deflation plain of the shoreline sand dunes. The ditched lands began feeding water directly into the "New River", which in fact was just an extension of Floras Creek.

In the 1930s and '40s another factor came into play which would further transform the landscape. To prevent the encroachment of shifting sands, non-native European beachgrass was planted along New River's foredune. With its remarkably long and tenacious root system, the grass restricted sand movement, and the accumulated sand raised the height of the dune. As intended, the elevated foredune served as a barrier to ocean tides which had breached the dune at varying points through the years. Now stabilized, the foredune continues to grow upward, reducing New River's contact with the ocean.

By 1954, the river had reorientated itself, flowing into the ocean not at the historic Floras Creek mouth but further north, at the outlet of Croft Lake. The river's mouth continues its northward migration, and is now beyond Four Mile Creek. If left undisturbed, the mouth may continue its progress northward until reaching rock such as the sandstone at China Creek. New River and its surrounding areas remain an extremely dynamic and unpredictable system, a model of nature's response to human alterations.

Additional information about the hydrology and history of New River can be found in Part 2, The Lay of the Land, and in Appendix A (the chronology of events).



New River and its surrounding areas remain an extremely dynamic and unpredictable system, a model of nature's response to human alterations.

A Land of Varied Uses

Most users of the New River area come to enjoy recreational activities such as fishing, canoeing, birdwatching, horseback riding, and general day use. During fishing season, New River becomes an informal gathering place for many local residents. It is not uncommon to see 10-15 vehicles parked on the riverbank and in the upper parking area during mild days in November or December. Most of the users expressed an interest in preserving the area in its natural state and keeping it under-developed, especially in view of the influx of people along the southern Oregon coast. Oregon's population boom is affecting the region by increasing real estate values. Large open tracts of land are being purchased by developers or subdivided and sold for home development.

The private lands surrounding BLM-administered areas at New River are used for various economic or recreational pursuits including:

- Cranberry bogs
- Ranching
- Speculative purposes to re-sell
- Hunting
- Co-owned for recreation purposes (Croft Lake)
- Housing development
- Small woodlots
- Private residences

Land Acquisition Strategy

The original New River ACEC Acquisition Plan, completed in 1987, identified a strip of land along New River which was considered important for the conservation and management of the area's unique natural resources.

A coalition of 20 national conservation groups recommended that Congress fund purchases of private land adjacent to the New River ACEC from the Land and Water Conservation Fund. These funds were appropriated by Congress and to date, five properties have been acquired - four through purchase and one by land exchange.

The acquisition plan was updated in 1993 to reflect changing market conditions and opportunities. BLM prefers to purchase land identified in the acquisition zone, but will also consider land exchanges and partial title acquisition (conservation easements) in this zone. New land acquisitions and conservation easements will be included in the New River ACEC and managed consistent with the goals and objectives of this New River management plan.

Purpose and Scope

This plan provides clear direction for comprehensive management of the New River Area of Critical Environmental Concern (ACEC) and any additional acreage acquired for inclusion in the ACEC.

The purpose of this plan is to address changes that have occurred since the 1987 management acquisition plan, and to determine management actions. Such changes include recent acquisition of the Storm Ranch and Hammond properties, new resource information, revised management direction and the listing of the snowy plover and Western Lily as federal Threatened and Endangered species.

The plan also identifies some gaps in our understanding of the natural resources and dynamics of the system, while providing ideas for future research. Other management direction includes the trend to form partnerships with various agencies, local organizations and individuals.

Early in the planning process a forum was convened for public comment. This input was considered and incorporated when possible. A major concern voiced by residents in the New River area was that government regulations might be forced on neighboring private lands. The scope of BLM influence, however, extends only to the BLM-administered lands. Management direction or prescriptions apply only to public lands within the ACEC.

Planning for the Plan

In the BLM planning system there are three levels or tiers:

1. Policy (national and regional level directives)
2. Management Framework Plan (MFP) and Draft Resource Management Plan (draft RMP, August 1992) (the MFP governs the actions of the district until a RMP is approved)
3. Activity Plan (site-specific plans like this one)

This plan is the third tier or the "on-the-ground" management plan for New River. It is tied into policy and the Resource Management Plan and conforms to BLM standards.

Support at the Policy Level...

Many of the goals and objectives embraced in the New River plan complement bureau-wide and regional initiatives. The Fish and Wildlife 2000 program, at both the national and regional (Oregon/Washington) levels, for example, call for maintaining sufficient quantity and quality habitat to ensure an abundant and rich diversity of wildlife, fish and botanical resources. These programs endorse public outreach, including education, to promote widespread understanding of BLM riparian management efforts and collaborative efforts with other federal agencies, concerned organizations, and landowners in management actions that contribute to species recovery.

Watchable Wildlife, Adventures in the Past, and Recreation 2000 are three other programs that underscore the importance of habitat for maintaining a diversity of natural resources like that at New River. A major focus of Watchable Wildlife is providing wildlife viewing areas and educational opportunities. Adventures in the Past creates educational opportunities and teaches good

Members of the New River Steering Committee

Stephen Beaton
Will Brady
Jane Dallison
Russ Frazer
Jim Howe
Mike Knapp
Eleanore Oldden
Sharon Parrish
Ellen Warring

Fishing
Floras Lake House By-the-Sea
Equestrian
Cranberry farmer
Croft Lake Association
Rancher
Landowner
Coquille Indian Tribe
Kalmiopsis Audubon Society

stewardship for cultural resources. Recreation 2000 provides for continued availability of quality, diverse recreation opportunities and experiences, with emphasis given to instilling visitor awareness, and providing information, interpretation and on-the-ground management presence.

..And at the District Level

The Coos Bay District is currently updating its management direction by finalizing a Resource Management Plan (RMP) to replace the "Management Framework Plan" (MFP). Until its completion, the district operates under the MFP, as supplemented by the Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl and its Record of Decision (Interagency, 1994). Every alternative in the August 1992 draft RMP (including the one preferred) addresses the management of New River similarly.

Concerning wildlife, the RMP proposes:

"Manage... a portion of New River as an ACEC to protect habitat for a number of special status species and important terrestrial and wetland habitats and provide low impact, passive recreation opportunities for the public associated with these habitats." pg.2-48

Regarding recreation:

"BLM administered lands along New River would be designated as SRMA [Special Recreation Management Area - provides greater protection to area] with emphasis on managing these areas for watchable wildlife,

environmental interpretation, and related low impact recreational activities. Recreational facilities and activities at New River would be compatible with the basic goals of the New River ACEC Management Plan [this plan]." pg. 2-48.

Taking this lead, the New River management plan works to refine management direction set forth for the area in the District Draft RMP (1992). It fulfills a need to establish for New River a comprehensive set of goals, objectives and actions. These will provide a level of resource protection, management and public use consistent with BLM initiatives, the District RMP and BLM guidelines for Areas of Critical Environmental Concern.

The People and the Process

In March of 1992, the Myrtlewood Resource Area hired a Natural Resource Specialist to oversee the planning process and compile, edit, and write the New River plan. That summer BLM began to assemble a list of people who lived near New River and/or had an avid interest in the area, to form a citizen steering committee. Individuals who had varied backgrounds and pursuits, yet a common respect for the area, were sought to provide public recommendations for the plan.

Ten committee members were originally selected. The members represented a cross section of the local community, business and other interests. Committee members were introduced to each other and briefed on the area in the first three meetings.

About one month after the first steering committee meeting, a parallel internal BLM group was also formed, known as the Interdisciplinary Team (ID Team). This team is a group of BLM specialists who bring their professional expertise and experience to the issues and concerns of the New River public lands. The formation of this group is required under NEPA (National Environmental Policy Act) regulations. NEPA regulations also require public involvement and comment through the planning process. The citizen steering committee provided early public input and guided the plan's direction from its conception.

The steering committee met periodically between July 1992 and December 1992, as did the BLM ID Team to define the plan's goals, objectives, actions and issues. Many sensitive issues were discussed in the process, such as Off Highway Vehicle (OHV) use, visitor use levels, artificial breaching of the foredune, and proposed guidelines for hunting and fishing.

As the plan became more specific, BLM ID Team members filled in the blanks. Each specialist provided the information and perspectives to round out the plan and make it complete.

The steering committee will continue to provide input during the review of proposed activities for the management plan, and will intermittently be consulted on issues in the future.

The ID Team leader received additional assistance from a number of sources. Everyone who included comments, suggestions, and ideas during the planning process is listed in Appendix B.

BLM ID Team Members

Joe Aitken	<i>Realty Specialist</i>
Dan Carpenter	<i>Hydrologist</i>
Sabrina Keen	<i>Team Leader</i>
Steve Langenstein	<i>Wildlife Biologist</i>
Don Porior	<i>District Engineer</i>
Reg Pullen	<i>Archaeologist</i>
Bruce Rittenhouse	<i>Botanist</i>
Stephen Samuels	<i>Archaeologist</i>
Dennis Turowski	<i>Recreation Planner</i>
Vicki Ursitti	<i>Fisheries Biologist</i>
Kathy Jo Wall	<i>Range Conservationist</i>

PART TWO

SETTING AND RESOURCE VALUES



PART 2

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The New River area is designated as an Area of Critical Environmental Concern (ACEC) because of these values: **Special Status Animal Species:** Aleutian Canada Goose, Bald Eagle, Peregrine Falcon, and Western Snowy Plover. • **Special Status Plant Species:** Pink Sand-verbena, Silvery Phacelia, and Western Lily • **Wildlife and Their Habitats** • **Historical/Cultural Values**

PART 2 - RESOURCE VALUES

The River

This ACEC activity management plan includes 994 acres of land bordering New River. New River is the focal point of the management area (see Map 1). The river flows north for nine miles along the southern Oregon coast between Port Orford and Bandon, from northern Curry County into southern Coos County.

New River begins as the northward flowing outlet stream for Floras Lake. The streamflow merges with east-west flowing Floras Creek, runs west for several hundred feet, then makes a sharp elbow turn and continues north. The river's course straightens, aided along the way by waterflow from Bono Ditch, New Lake, Croft Lake and Fourmile Creek. Approximately one mile after intersecting with Fourmile Creek, New River breaks out to the Pacific Ocean. Some seven miles of the river's length are due to its northward migration which began in the early 1900s.



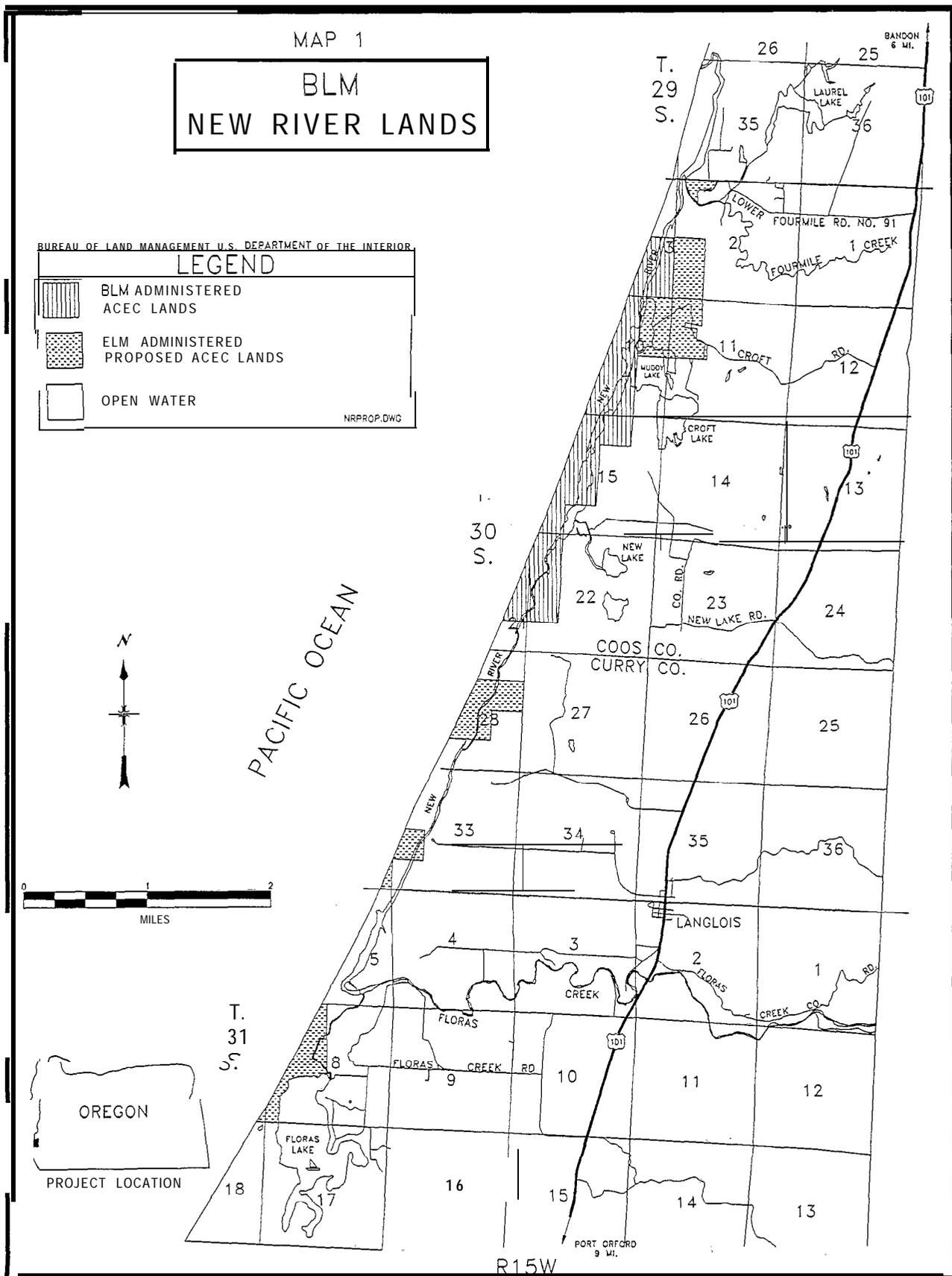
How to Reach New River

From Highway 101, the public can access New River at three places. The northernmost entrance is just south of the West Coast Game Park. After turning west on Lower Fourmile Road, visitors continue to the base of the sand dunes where the road makes a sharp north bend. At this point, a dirt track leads into a fenced meadow where visitors park and then proceed on foot to New River. This 14-acre parcel (previously the Toth property)

is administered by the Bureau of Land Management and is open to the public.

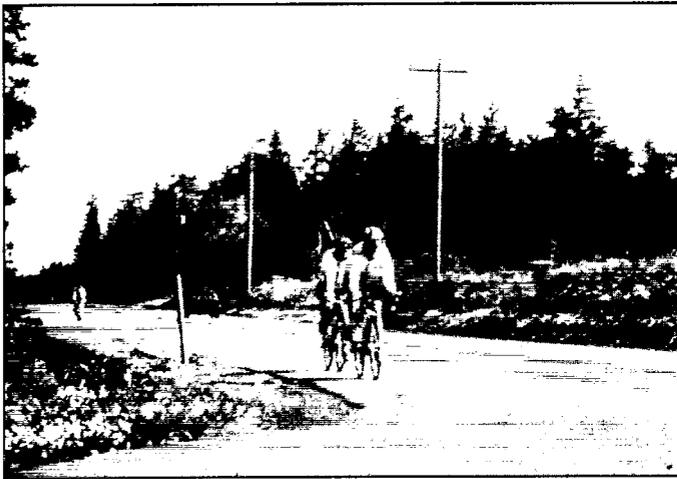
The central and most widely-used access to New River is Croft Road. At the end of this paved county route the road forks. The graveled roadway to the left leads to the gated, private Croft Lake Club property. The right fork, a one-lane dirt track, continues west through the Storm Ranch and ends at a parking lot by New River. This entrance offers the best access for hiking and picnicking,

Map 1 - BLM Administered New River Land



and is heavily used particularly during salmon fishing season. Entry onto the fenced ranch is controlled by a gate at the ranch entrance.

The southern access point to New River is near Floras Lake. Access for boating begins at the put-in just north of the footbridge at Floras Lake County Park, with takeout points at Storm Ranch and just above Fourmile Creek. The footbridge across Floras Lake outlet provides foot access onto BLM New River lands on the south end of the ACEC.



Social and Economic Factors

According to the 1990 census, Oregon is among the five fastest growing states in the nation. As of 1990, Coos County had a population of 61,000, more than half of which is within a lo-mile radius of Coos Bay/North Bend. Incorporated communities in the general area of New River include Bandon (2,390) in Coos County and Port Orford (1,025) in Curry County (Oregon Blue Book, 1993-94). Unincorporated areas include Langlois (1,700) in Curry County (Langlois Post Office estimate, 1993).

Primary industries in the two counties have been timber, fishing and tourism, In the timber sector, however, employment has dropped due to environmental issues of the '80s and '90s, and the fishing industry has been similarly affected by reduced salmon populations.

In contrast, tourism in Coos and Curry counties is on the rise, Each **year** between Memorial Day and Labor Day

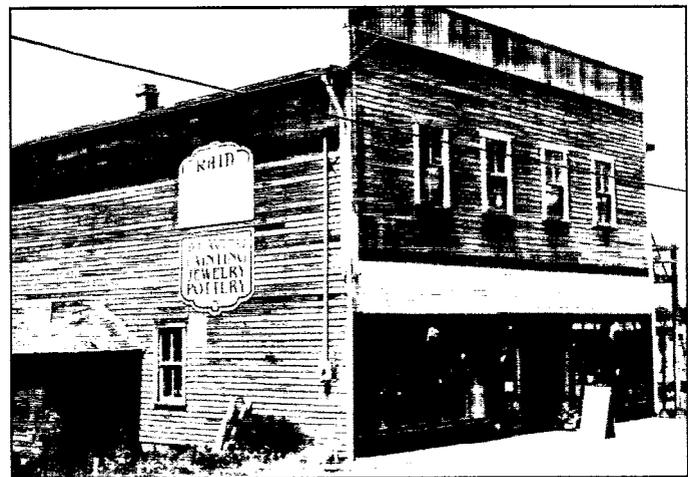
thousands of tourists travel through the two counties on Highway 101. Also traveling the corridor during this season are approximately 9,000 bicyclists. Due to prevailing north winds, these cyclists generally travel in the southerly direction, beginning in either Seattle or Portland and generally ending at or near San Francisco (Bikeway Program, ODOT). Peak tourism months are July and August.

A shift in industry focus, however, is not the only changing socioeconomic factor on the southern Oregon coast. Another is the demographic trend in Coos and Curry counties as growing numbers of retirees and urbanites relocate to the Oregon coast from metropolitan centers. Also

The cranberry industry has shown the most increased activity, with bog development up 37 percent within the last 10 years.

encouraging the coastal population influx, until recently, were low housing and real estate costs. Many people from other states have purchased property for retirement or speculative purposes. Conversely, rising property and housing costs and taxes above historical levels are contributing to an exodus of longtime local residents. Particularly affected are those associated with struggling industries who are seeing both their way of life and their livelihood disappear.

Another major social and economic element in both Coos and Curry counties is the large rural population. Most of



The old Woodmen of the World building has been renovated and is now an art gallery in Langlois.

this sector depends on agricultural commodities such as small private wood lots, dairies, cranberry bogs, cattle and sheep. Of these, the cranberry industry has shown the most increased activity, with bog development up 37 percent within the last 10 years (Ocean Spray Cranberries, Inc., 1993).

Given these various socioeconomic conditions and changes, the two counties are realizing the importance of their tourism industry and making plans to expand and broaden its appeal. Communities such as Coos Bay and Bandon, for example, are upgrading their downtown areas. In Langlois, old, distinctive buildings are being converted to businesses such as art and antique shops. Along the Highway 101 corridor, many homes are now being used for commercial pursuits such as bed and breakfast operations or gift shops.

Grazing

Livestock grazing has been a dominant economic use of the New River area since the mid-1800s with the arrival of the first settlers. Over the years, grazing conditions were improved by clearing land, draining wetlands, and breaching the foredune.

Currently, several large working cattle and sheep ranches are located along New River's southeastern reaches, and two area ranchers have grazing leases with the BLM on public lands in the New River area. See maps 2 and 3.

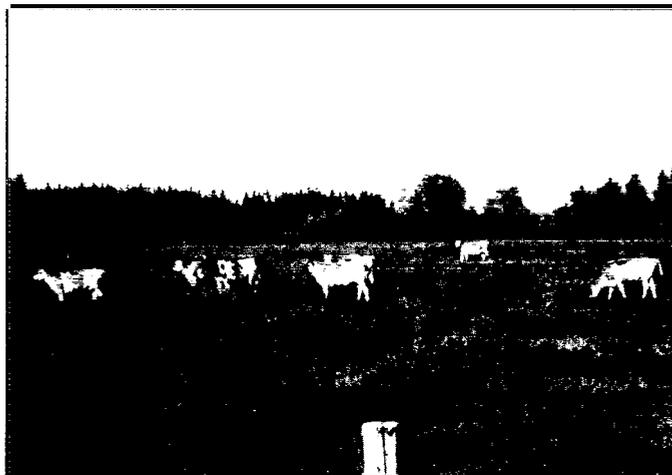


Cranberry farming is a rapidly growing industry in Coos and Curry counties.

In 1985 a boundary fence was erected on the east bank of New River, enclosing 29 acres of private grazing land into the New River ACEC to avoid crossing the river twice with fencing (map 2). A cooperative agreement

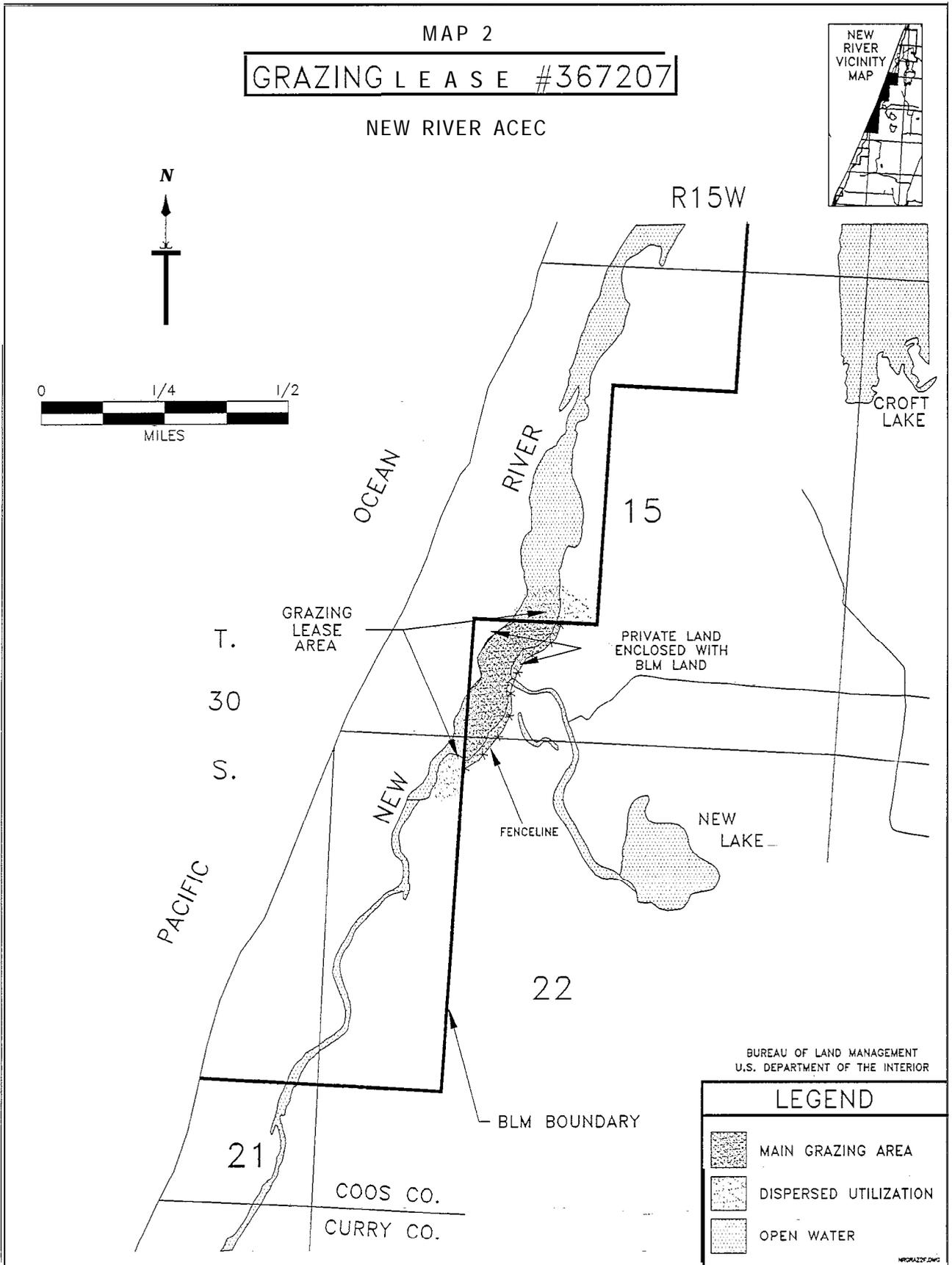
and BLM grazing lease (allotment 367207) was established to compensate the landowner for his private property excluded by the fencing. The lease stipulates 80 AUMs (An Animal Unit Month (AUM) is the amount of dry matter needed to feed one cow and a calf for one month - 1,000 pounds of forage), from July 16 to August 15 on the enclosed 29 acres of private land and the immediate BLM land in portions of sections 15 and 22.

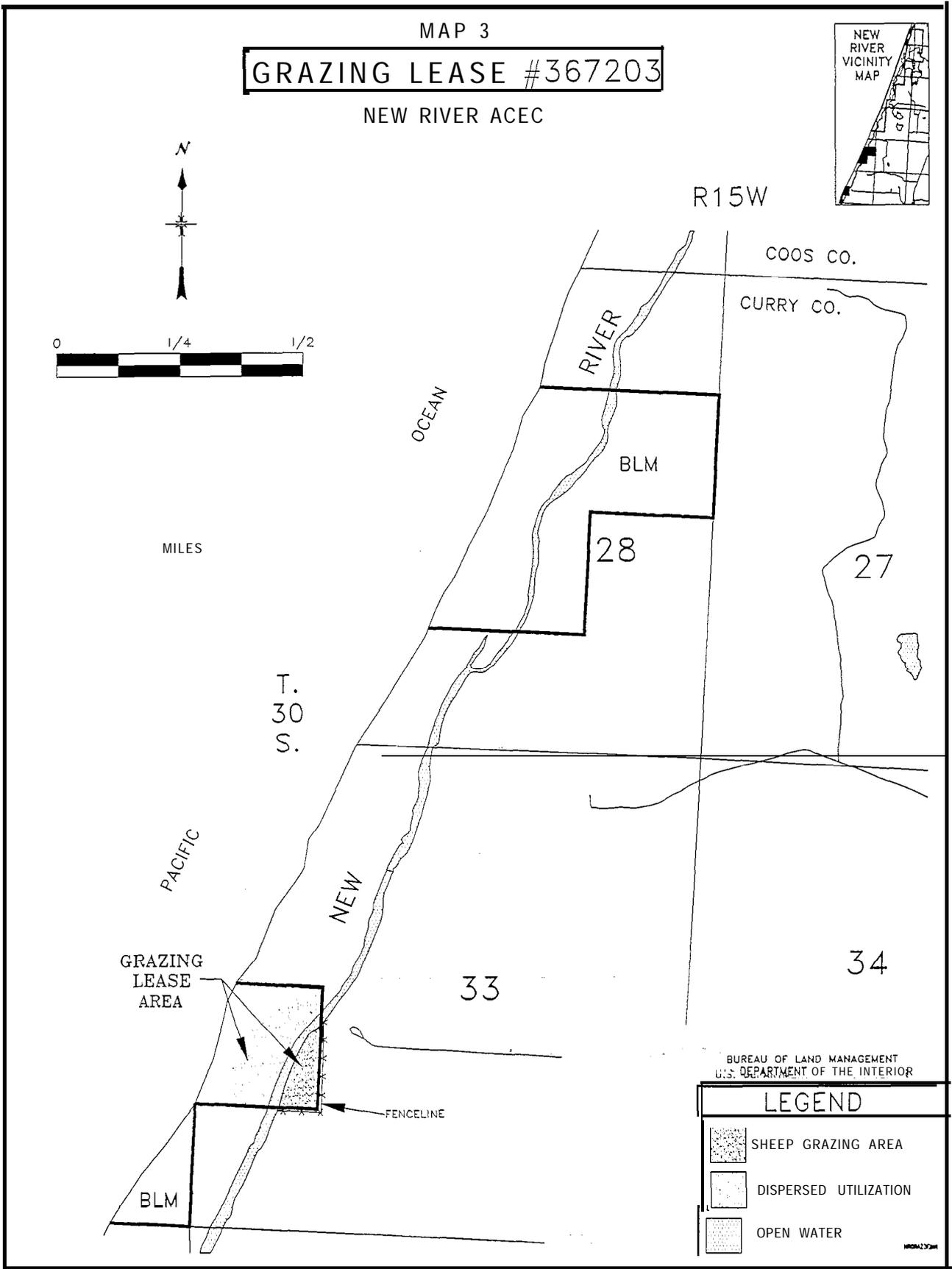
Since 1985, the vegetation on this 29 acres has changed from a pasture community to a wet marsh community. The area is grazed for only one month in the summer after the vegetation is fully grown and dormant. This limited use has resulted in the pasture grasses being replaced by tussocks and other marsh species, which are not preferred forage by livestock.



The second grazing lease is on allotment 367203, located on the southern part of New River (map 3). The allotment has the permittee's private land to the north and another rancher's land to the east and south. The lease was established in 1985 to regulate unauthorized grazing on BLM administered land. It totals 29 acres with only seven acres classified as actively grazed habitat. The lease allows for 20 AUMs from April 15 to October 1.

Grazing practices will be monitored and evaluated as part of plan implementation (see part 3).





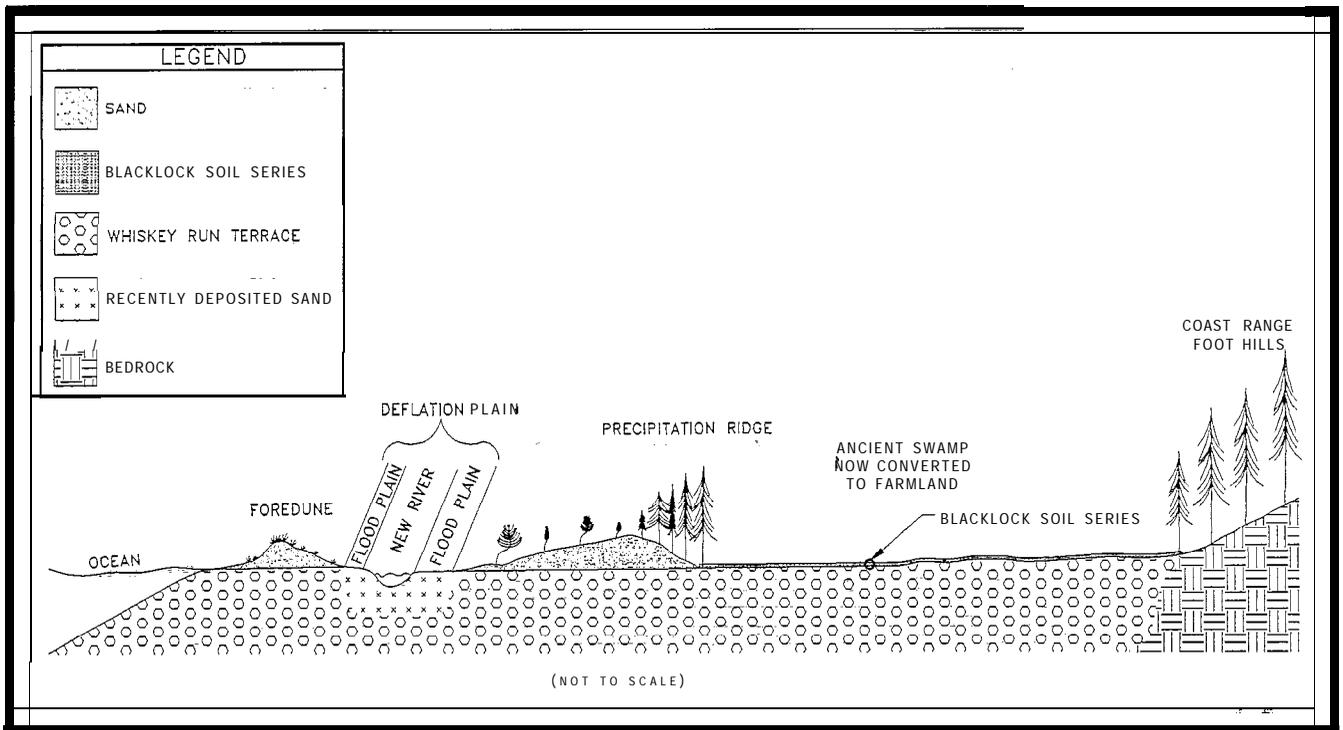


DIAGRAM 1. Geological Landforms in the New River Area.

The Lay of the Land

(Geology, Landforms, Minerals and Soil Types)

Sand deposition and erosion from the ocean has played a vital role in creating the current landforms and water movement patterns seen today at New River. The most common landforms in the New River area include the *beach and foredune, deflation plain, floodplain, precipitation ridge, and terraces*. (See Diagram 1). Geologically, all of these landforms rest atop the Otter Point formation which was deposited about 150 million years ago. The formation is composed primarily of sheared sedimentary rocks with smaller amounts of volcanic material, “pods” of chert, and blueshist.

Laid down from the ocean to the Coast Range foothills, on top of the Otter Point formation, are *terraces*. Terraces are composed of poorly sorted, unconsolidated sands, silts, clays and gravels.

The best known and most recent terrace is the Whiskey Run Terrace which is made up of recently deposited marine and stream sediments. Technical terms for the minerals composing Whiskey Run are coarse to fine grained quartz, various plagioclases, opaque mica,

amphiboles, pyroxenes, and other minor silicate minerals. The deposit is a relatively thick layer, possibly as deep as 500 feet in places, and was deposited approximately 10,000 years ago during the Pleistocene ice age. During the late Pleistocene, the area was part of a long, flat beach which extended between Charleston and Port Orford. This beach was uplifted by plate tectonics and then dissected by the small streams flowing from the Coast Range. Rising sea level, since the last ice age, has covered some portions of the Whiskey Run Terrace along the coast. Inland areas are now colonized by vegetation and trees such as Sitka spruce, shore pine and Port Orford cedar.

One of the most common soils at New River, developed on the Whiskey Run terrace, is the Blacklock soil series which is characterized by a partially cemented layer about a foot below the surface. The hardpan layer makes water infiltration difficult, causing it instead to collect on or near the soil surface. This feature makes Blacklock soils favorable for wetland development and for cranberry agriculture.

Well-sorted surface sand deposited by wave action and blown inland, makes up the *beach and foredune* areas. Natural areas tend to be dry and infertile with scattered vegetation.

The *foredune* is the low ridge of sand, varying in width from 200 to 600 feet, which separates New River from the Pacific Ocean. The sand, or quaternary alluvium, is composed of

recently deposited well-sorted sand. Its formation as a higher, vegetated landform began in the early 1900s with the introduction and establishment of European beachgrass. Stabilized sections of the foredune can support a variety of plant and animal life.

During the late Pleistocene, the area was part of a long, flat beach which extended between Charleston and Port Orford. This beach was uplifted by plate tectonics and then dissected by the small streams flowing from the Coast Range.

The *deflation plain* is the flat area east of the foredune presently occupied by the river. The river's *floodplain* also lies within the deflation plain. The floodplain is the area which the river overflows into during high water flow. Sands and silts make up the fertile floodplain soils found along portions of New River where they continue to be deposited. Deposition of suspended sands and silts usually occur during periods of high flow and associated flooding as the stream velocity slows in low gradient (almost level) floodplain areas. This soil material, which originated mostly from the Klamath mountains geographical province, has been transported by Floras Creek into New River.

Sand movement causes the *precipitation ridge*. Strong but intermittent winter winds, and moderately steady summer winds remove dry sand down to the water table (the point where the sand is wet) and blow it eastward. At present the sand is removed from New River's river bed and floodplain during low water flow. The dry sand is blown landward and redeposited as the precipitation ridge. This low ridge of dune sand extends 1/4 to 1 mile inland from where it begins on the east side of the river.

From a mineralogical perspective, field studies have determined that the New River ACEC contains insignificant amounts of locatable or saleable minerals.

A mineral withdrawal was placed on the land and based on more than just the availability of mineral resources. Because of the mineral report and the area's unique and varied natural resources, the area was withdrawn in 1993 from mineral entry under the Mining Law of 1872. Also, the U.S. Geological Survey has determined that the New River area has only nominal potential, if any, for oil, gas, sodium, potassium, geothermal or coal geologic resources.

Soil maps and associated soil interpretations for the New River area are located in the Soil Survey of Coos County (Soil Conservation Service, 1989), and the Soil Survey of the Curry Area, Oregon (SCS, 1970).

Hydrology

New River is a lower river extension of Floras Creek and its watershed, which, at the junction of the Floras Lake outlet channel, has a drainage area of 71 square miles. Additional drainage area is gained from Floras Lake (12 square miles); New Lake, Croft Lake and New River (23 square miles); and Fourmile Creek (22 square miles). Collectively, a total of 128 square miles (81920 acres) contribute to New River's watershed, the majority of which is in the Klamath Mountain Range - a geologic province.

New River is designated a C5-C6 stream under the Rosgen stream classification system (Rosgen, 1994).



Fig. 1

The river is a low gradient (slope of less than 2%), sand/silt bed stream. The river carries a high sediment load during winter storm events. New River meanders somewhat within its wide channel and water often overflows the active channel during heavy rainfall.



This photo, taken atop the precipitation ridge, shows the river in its deflation plain and the foredune

Estimated average monthly streamflow varies, by season (computed at Floras Lake outlet), between 10-750 cubic feet per second - cfs (Oregon Department of Water Resources 1963).

Riparian/wetland types at New River can be distinguished by salinity levels ranging from saltwater to freshwater. Because New River is influenced by ocean



Fig. 2

tides, it has three distinct areas. These are: “**estuarine tidal**”, where active mixing of salt and fresh water occurs, “**bon-tidal**” where some salt water is present, and “**riverine**”, found in the upper reaches of New River, which has no salt water influence.

In addition to wetlands along the river, freshwater wetlands occur inland from the river in topographical depressions (Cowardin 1979). Wetland types are dependent on the persistence and type of vegetation, wetland hydrology and soils; they are discussed in further detail in the “Plant Communities and Wildlife Habitat Values” section.

Seasonal rains and runoff patterns have a strong effect on New River. There is little water storage in the system and almost 80 percent of annual runoff occurs between November and April, coinciding with precipitation patterns. Less than one percent of runoff occurs in the months of August and September. Annual runoff in the basin averages about 50 inches, and annual yield measures approximately 340,000 acre feet.

Like other coastal waterways which empty into the Pacific, New River experiences a yearly cycle of change. Its shallow bed allows influxing tidal saltwater to mix easily with fresh river water. While the river is open to the sea, usually late fall through spring, estuary - like conditions develop in the northern third of the river. During the dry season of late summer and fall, when streamflow dwindles, northwest winds blow sand across



Fig. 3

Almost a natural breach: If an ocean high tide coincides with a winter storm and high water in New River the river mouth may be formed. In the case of these photos, the storm episode was not great enough to create a mouth, only water exchange. Note New River in the foreground.

the river's mouth which usually closes it. This yearly blockage, which causes the river to resemble a long, narrow lake, persists until the river overflows and the foredune fails in the late fall or winter. This foredune failure or "breaching", can occur in either an old or new location and leads to the formation of a river mouth.

According to local residents, in the past when the foredune failed or was breached, the tidal forces have actually reversed New River's outward flow in the vicinity of the breach causing the river to flow south instead of north.

In early summer, average monthly water flow falls to 70 cfs and may drop to less than 10 cfs later in the season. This low flow may cause parts of the river to dry up, especially the fresh water section between Floras Creek and New Lake outlet. Low flow, or lack of streamflow to the outlet, allows wind blown sand to close the mouth which isolates New River from the ocean. When this occurs, salinity levels diminish and the effect of tides cease in the lower river. Remaining streamflow is held in pools, and because of the lack of shade, water temperatures can rise.

In the fall, as river flow increases from seasonal rainfall and tributary runoff, freshwater backs up in the river as far as the Floras Lake outlet. The northern end of the river expands, acting as a reservoir, during this time. As New River gains water volume and depth it exerts pressure on the foredune, and begins to overflow at one or several low points. This is fall breaching.

During winter high flows, the riverbed's width, depth and shape change, and the river has maximum energy available to move northward (a two year flood event is approximately 3500 cubic feet of water/second). Erosion and continued movement of the mouth depend on several subtle shifts occurring at once most importantly, changes in stream slope, width, depth, water flow volume, sediment supply, prevailing winds, and ocean tides.

On an infrequent basis - generally once in about every 10 years - floodwater in New River will overtop the narrow foredune and blow out a new mouth at some upstream location. When this occurs, water flow volume in the river below the blowout, is substantially reduced. The effect of floodwater rushing through the breach causes upstream channel changes and bankcutting. Conditions

which contribute to foredune failure include out of bank flows and flooding conditions, river meander patterns which direct higher velocity water into weak foredune locations, high tides, and pounding surf.



Bono Ditch flowing into New River.

One of the most obvious breaching locations is at the acute northward turn of Floras Creek near the Floras Lake outlet; at times, fast moving or high-volume flood waters flow into the foredune. When the foredune fails or is mechanically breached, waterflow may reverse in the vicinity of the breach and flow south into the ocean, instead of continuing north to a farther mouth.

This flood relief, whether natural or aided by man, has changed important river and channel dynamics. For example, near Bono Ditch, a rise has developed. This hump, between Floras Creek and New Lake outlet, can cause pooling, reverse stream flow or even aggravate channel drying in late summer.

Since the 1920s, and as recently as January 1995, foredune breaching has been done mechanically by local residents. Historically, this has occurred in the fall, to allow salmon early entry for fishermen, or in the winter at the former mouth near Floras Creek, to relieve flooding on low lying farm and pasture land. Occasional moderate winter flooding, though at times disruptive to surrounding farms, results in rich silt deposits along the flood plain, enhancing plant growth. These flood waters also allow recharge of seven to nine miles of the lower river and surrounding groundwater tables which support freshwater wetlands. This recharge also counters the weak river flows and a lower water table later in the summer.

After high winter runoff, water begins to slow to 150-300 cfs (mean monthly flow) as summer approaches. As sand closes the mouth, the cycle begins again.

The current condition of the New River is quite unstable. With improved upland management and riparian condition, tributary streams could become more stabilized. Ideally, a more stable state for New River would be: a channel with a greater meander length, vegetated and stabilized sueambanks, deeper and narrower channel, and the ability to release excess water to the adjoining floodplain during high flows.

Water Rights

Oregon water laws and appropriative water right procedures are administered by the Oregon Water Resources Department (WRD) and the local watermaster. In the New River area, water is used for agriculture purposes including forestry, dairy and cranberry production. Domestic water use occurs in the Floras, New Lake, Croft Lake and Fourmile watersheds, including New River. There are also a number of surface/groundwater rights certificates and water rights pending in the New River watershed areas.

In addition, the Oregon Department of Fish and Wildlife has an instream flow water right on Floras Creek for protection of fisheries resources. These ODFW rights encompass the flow from river mile two to the mouth. Other water right listings by stream, source, priority date, total allocation of water in cfs. and other information are available from the local watermaster.

Surface and groundwater withdrawals are reducing stream levels in some of the watersheds, including New River. This is particularly evident in the summer/fall period when rainfall is lowest and water diversion is highest. Evaluation studies need to be done to determine how groundwater pumping is affecting annual recharge in some areas.

Additional discussion about the hydrological history of New River is in Appendix A, Chronology of Events at New River.

Plant Communities and Wildlife Habitat

Vegetation at New River is typical of the Oregon Coast, consisting of plant communities on open and stabilized sand dunes, wetlands, upland shrub and coniferous forests. The beach is characterized by a steep foredune with a deflation plain directly behind the foredune. The deflation plain blends into either a shrubland or coniferous forest, depending on the time since the last disturbance (Wiedemann 1969).

Eventually successional sequences will lead to a coniferous forest consisting of sitka spruce, western hemlock, Douglas-fir, or shore pine, depending on the initial conditions following a disturbance (Franklin and Dymess 1973). Please see Appendix C for scientific names of plant species occurring in the New River area.

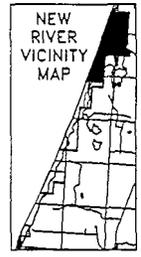
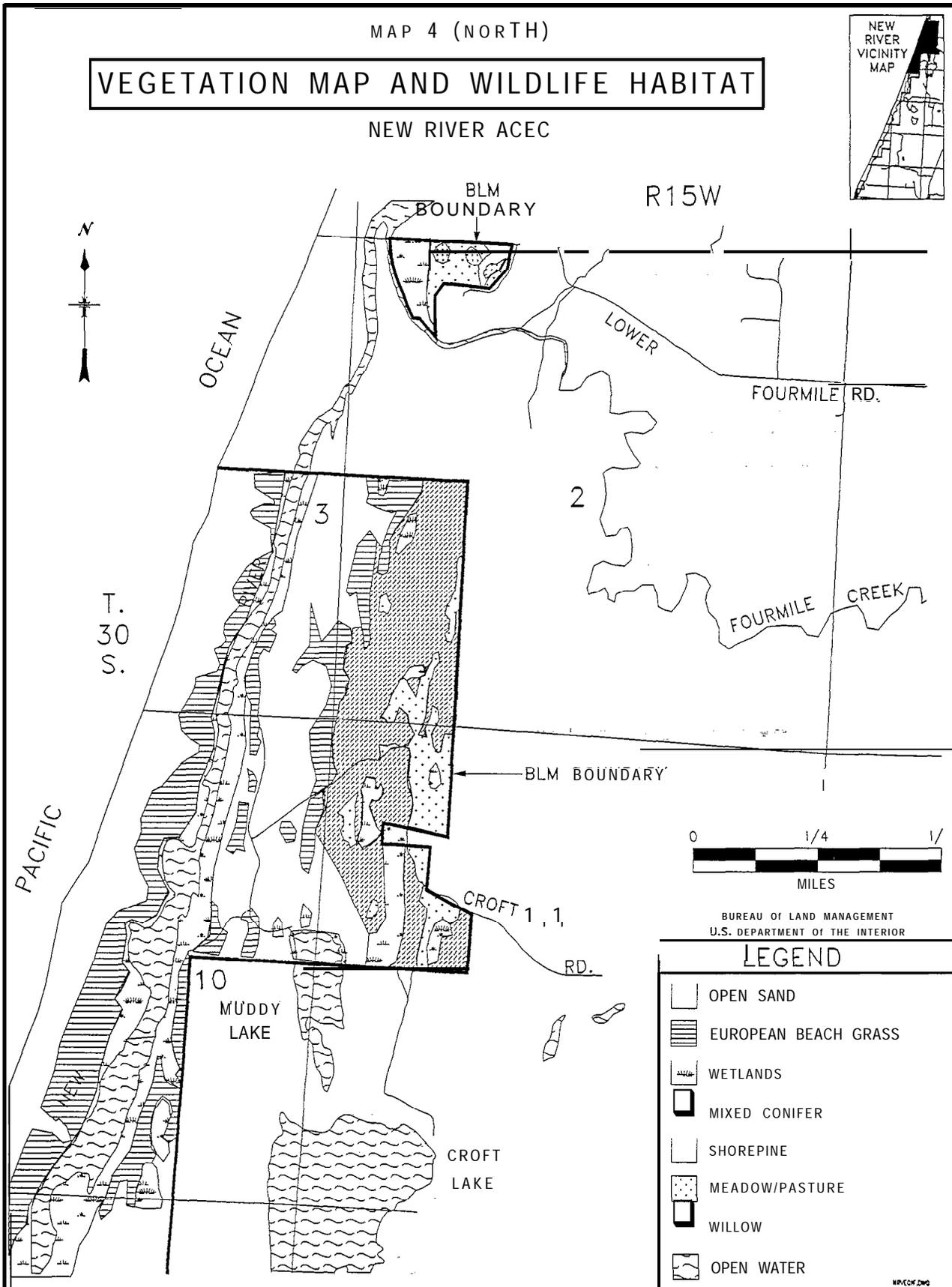
Seven dominant vegetation types, and/or wildlife habitats occur in the New River area. These vegetation types are:

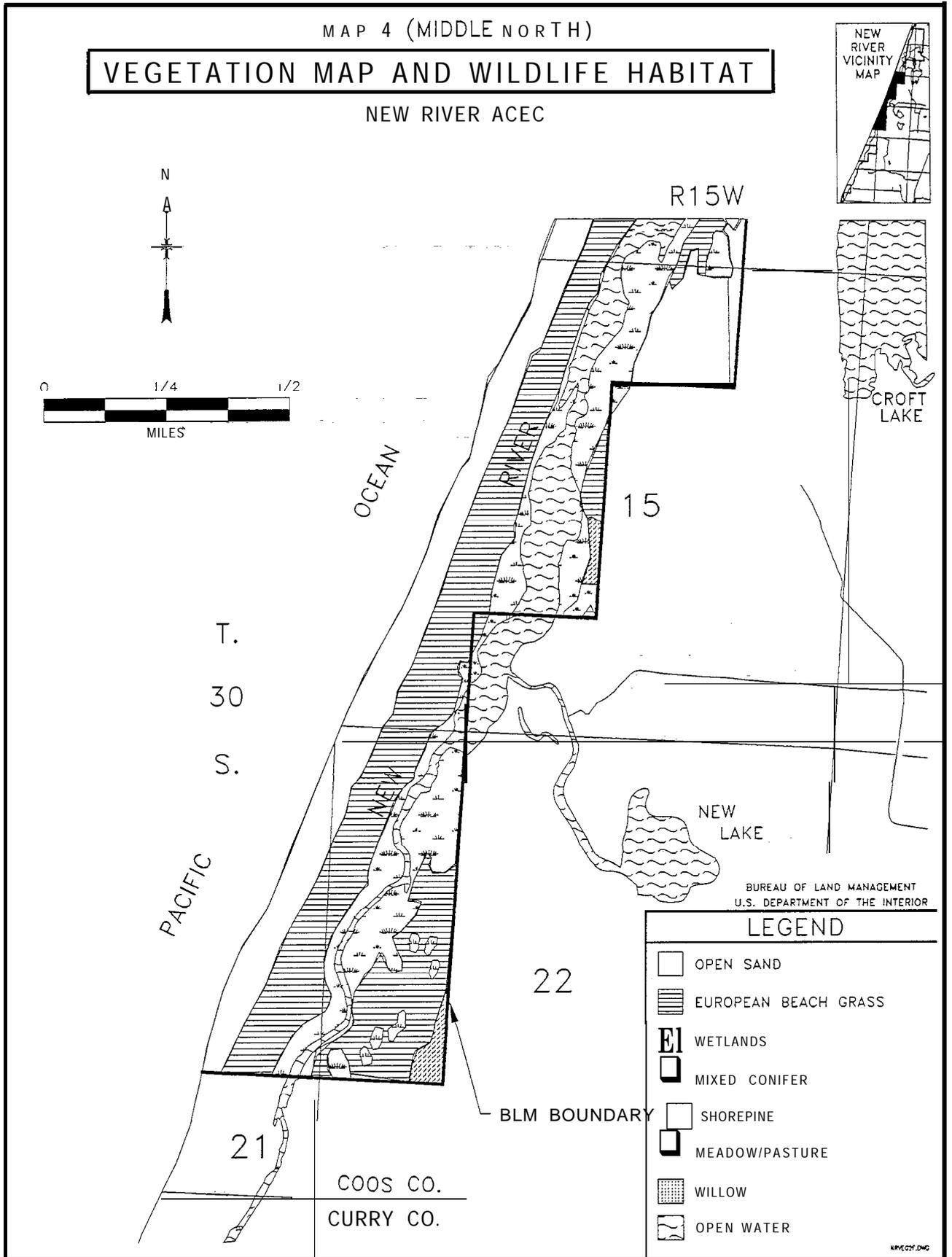
- Open sand dunes
- European beachgrass
- Wetlands/riparian/estuaries
- Mixed conifer/shrub
- Shore pine/beachgrass
- Meadows/pastures/grasslands
- Willow/sedge

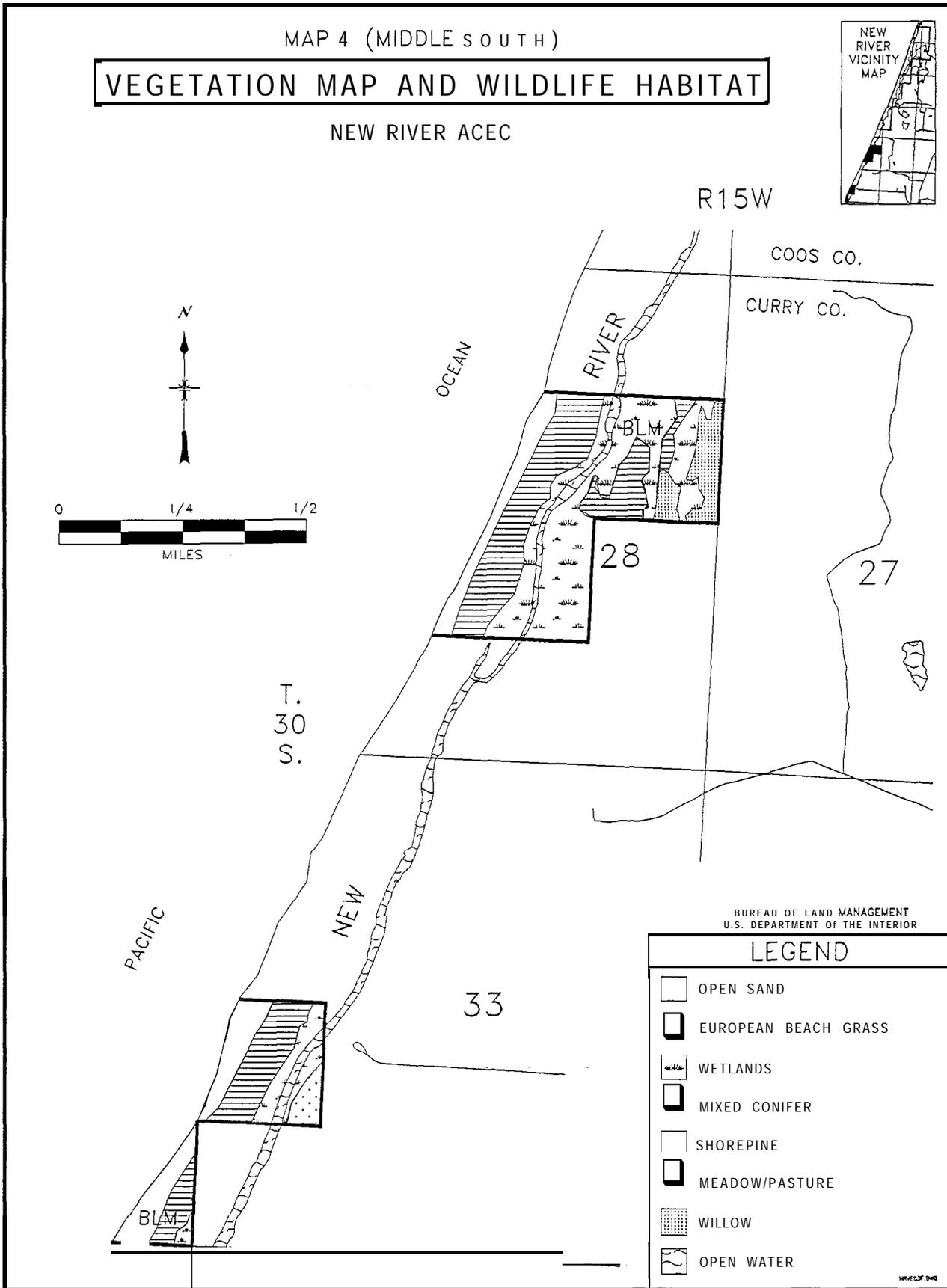
Map 4 shows the locations of these vegetation types and wildlife habitats. Because the New River area is long and narrow, the map is broken into four pages representing the north, middle north, middle south, and south parts of the area.

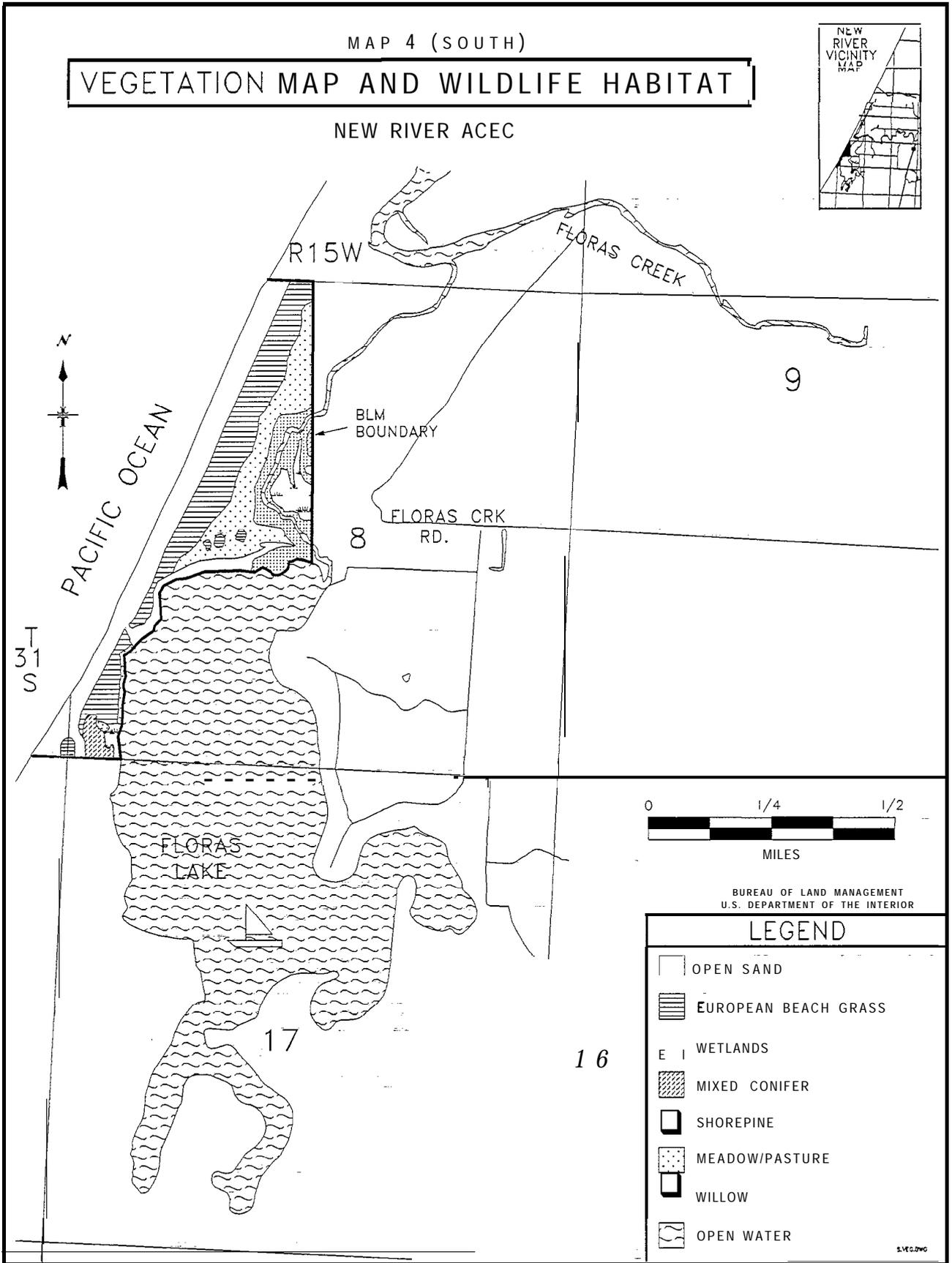
Within these seven vegetation types, 22 more specific plant communities exist, as identified by Christy (1981, see Appendix C). The contribution of these diverse habitats to the life requirements of plant and animal species, including special status plants and animals, is significant and one of the reasons for New River's ACEC designation.

Some of the plant communities found at New River are rare. These communities, found only along the North American Pacific Coast, have declined throughout the region for various reasons - including invasion of introduced plant species and recreational and residential









development. Globally, these plant communities are becoming scarce and, therefore, their occurrence in areas such as New River, where they are afforded recognition and protection, is extremely important.

The network of Natural Heritage Programs and Conservation Data Centers has developed a prioritization system for determining global significance of plant communities. Using a scale of 1 to 5, “global rankings” are based on the number, the quality and condition of the occurrences, the narrowness of range, the trends in populations and habitats, the threats to and fragility of the element being assessed. The global ranks are as follows:

- **G1 - critically imperiled globally (typically 5 or fewer occurrences)**
- **G2 - imperiled globally (typically 6 to 20 occurrences)**
- **G3 - rare or uncommon but not imperiled (typically 21 to 100 occurrences)**
- **G4 - not rare and apparently secure, with numerous long-term occurrences (usually more than 100 occurrences)**
- **G5 - demonstrably widespread, abundant and secure.**

The New River ACEC has both G1 and G2 plant communities. Seashore bluegrass is a G1 community, and the bog blueberry/tufted hairgrass community is ranked G2. The American dunegrass plant community is ranked as G1; it does not currently occur within the ACEC but probably occurred there historically. These communities will be discussed in more detail under their respective vegetation types.

Diverse plant communities provide partial or complete habitat for a wide variety of wildlife. In general, wildlife habitat is that part of an area that contributes to an animal’s life requirements, including feeding, resting, and breeding. If one part of an animal’s habitat is missing or lost, some of its life functions may be interrupted or prevented.

Noteworthy aspects of the habitat values at New River are:

- **The coastal location.**
- **Variety, types and juxtaposition of habitats present.**

- **Uniqueness of these plant communities and habitats relative to the current high level of Oregon coast development.**
- **Limited human use of the area.**

Following are descriptions of the seven dominant vegetation types and key wildlife habitats, including the species they support.

Open Sand Dunes

Open sand dunes are scattered on the ACEC and are in a state of decline due to the rapid expansion of European beachgrass. Native plants in these habitats include seashore bluegrass, beach morning-glory, American glehnia and yellow sand verbena.

What makes open sand habitats dynamic are the effects of wind and water.

In spite of having sparse vegetation, open sand provides habitat for shorebirds, gulls, mammals and occasionally sea turtles.

Snowy plovers, for example, nest in the open areas

where shells, rocks and small debris collect.

By trapping blowing sand, European beachgrass buries other species, precluding resource competition.

Two globally significant plant communities occur within this vegetation type along Oregon’s south coast. The seashore bluegrass community, a G1 community, is found within the ACEC, while the American dunegrass community which historically grew along New River has disappeared. The seashore bluegrass community on the ACEC is small, less than 1 acre, and appears to be in decline. The dominant native plants in this community are seashore bluegrass, red fescue, yellow sand verbena, and silvery phacelia. Three of these plants are listed as special status plant species (Table 1, Page 2-24).

The American dunegrass community no longer occurs at New River since it has been out-competed and replaced by European beachgrass. American dunegrass occurs in isolated patches at New River, but the community itself (American dunegrass and associated species) is not known to exist within the planning area.

Wiedemann (1984) lists nine species that are “dune-maritime endemic”, meaning that they only occur on the beaches and dunes of the Pacific coast of North America. Of these, eight are known to occur within the New River planning area: yellow sand verbena, silver bursage, American glehnia, beach pea, beach evening-primrose, seashore bluegrass, black knotweed, and dune tansy. Although most of these species are abundant, their presence adds to the biological resources of the area.

European Beachgrass

European beachgrass now covers large expanses of the ACEC between the open sand beach and the river (foredune), and also grows along some parts of the ACEC east of the river. European beachgrass has greatly reduced the open sand dune plant communities and may have subsequently reduced native plant richness by as much as half (Barbour and Johnson, 1988).

In areas where European beachgrass is found, vegetation can be dense to somewhat open or fractured and sometimes dispersed, providing habitat for certain small animals. These small animals in turn provide a forage base for predators, such as northern harriers, striped skunks and raccoons. The extent that this habitat is now used by native and introduced wildlife is not well understood at this time, since general wildlife inventories have not been conducted in this community.

Of specific concern about European beachgrass is its ability to outcompete native foredune plant species (Barbour et al. 1985). One recent hypothesis is that it is actually a weak competitor which dominates through its ability to alter the habitat, (Van der Putten 1985 cf Pickart et al. 1990). By trapping blowing sand, European beachgrass buries other species, precluding resource competition. Unlike other vegetation, European beachgrass can withstand sand burial of up to one meter

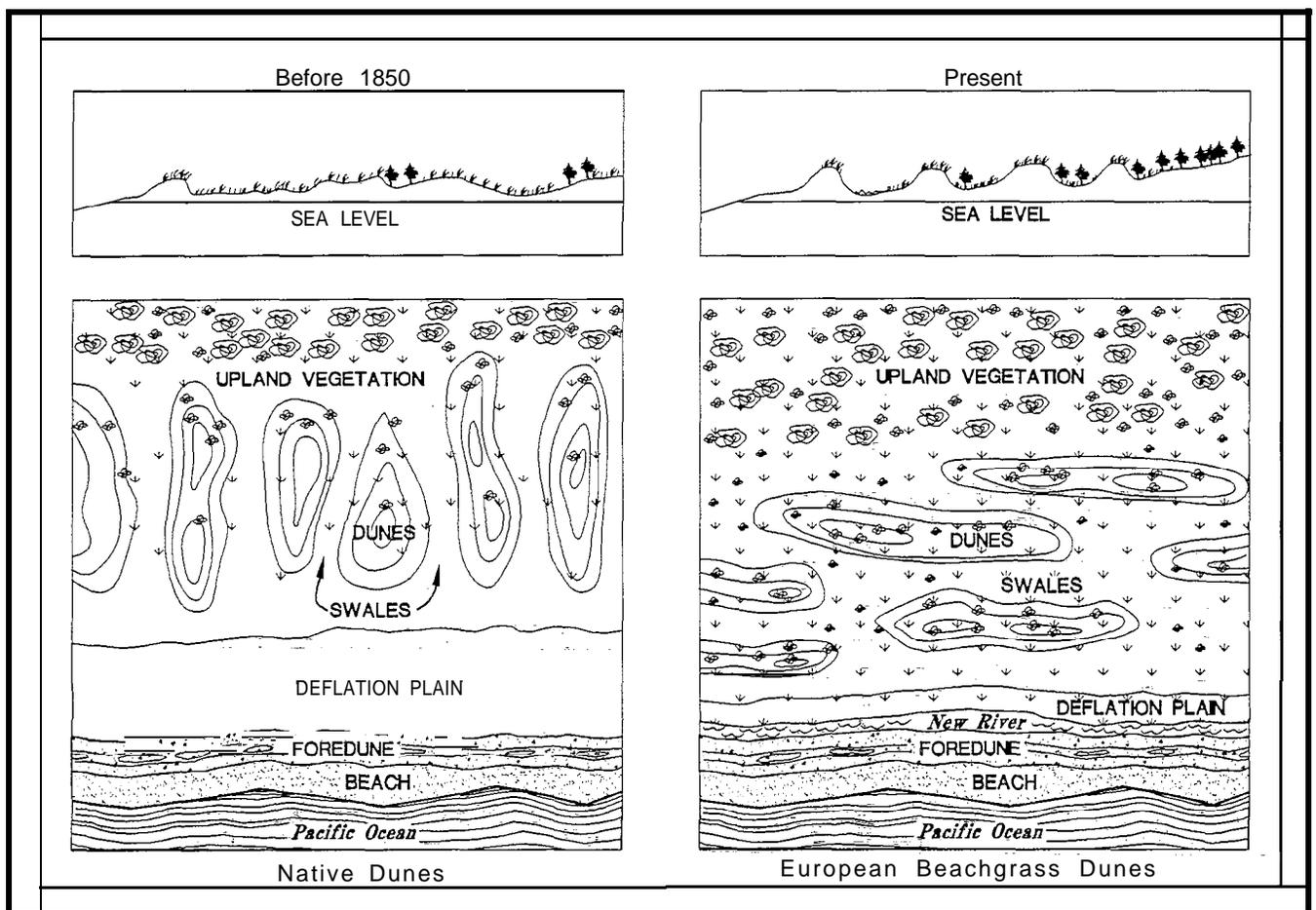


DIAGRAM 2. Historic and Current Dune Configuration

(39+ inches) per year. In fact, sand burial promotes beachgrass leaf elongation and underground stem development (Ranwell 1959). Runners in the root system are the primary means of beachgrass reproduction. Despite high seed production (up to 20,000 seeds/plant/year), most beachgrass seedlings die within a few weeks of germination (Huiskes 1979).

Significant differences are seen when comparing areas dominated by European beachgrass with those covered by native dune species, such as American dunegrass. Foredunes dominated by European beachgrass are steep and give way to a series of dunes and swales parallel to the coast. In contrast, dunes dominated by American dunegrass (the dominant native sand dune stabilizer prior to European beachgrass establishment) rise gradually and lead to dunes and swales perpendicular to the coast (Barbour and Johnson 1988). See Diagram 2, page 20.

This vegetative change in the dunes over the years may be the primary reason why much of the New River ACEC has moved into a more advanced semi-forested successional stage. However, additional research is needed to determine the best methods for European beachgrass control.



A 3-foot cut in a dune reveals the long, tenacious root system of European Beachgrass.

Wetlands/Riparian Areas/ Estuaries

Wetlands are scattered throughout the ACEC in the form of bogs, ponds, mudflats, and salt- and freshwater marshes. These wetlands support many species of sedges and rushes as well as the yellow pond-lily and California pitcher-plant.



Two-thirds of all edible fish species spend some part of their lives in coastal estuaries.

The bog blueberry/tufted hairgrass plant community, a G2 community, occurs infrequently in seasonally flooded depressions-on old deflation plains and marine terraces, and around the margins of shallow dune lakes. Tufted hairgrass dominates the openings in the shore pine forest, with bog blueberry forming thickets around the margins or scattered throughout the interior. Sphagnum moss is nearly always present among the stems of the bog blueberry. This community is declining throughout its range from recreational and residential development, and possible dewatering of coastal aquifers.

Freshwater wetlands are critical overwintering areas for juvenile coho salmon. Seasonal and permanent wetlands located on the river's east side are major feeding and resting areas for both resident and migrating wildlife. These wetlands are commonly used by ducks, perching birds, and beaver, and are critical habitats for amphibians (See Appendix D). Many of the wetland wildlife species provided a forage base for predators such as peregrine falcon, northern harrier, bobcat, fox, raccoon, and snakes.

Riparian habitat is found along the banks of waterways. Many of these areas are dominated by grasses and sedges, while some are dense with willows. Riparian vegetation provides structure, cover, and thermal regulation for native fishes. These areas also offer important feeding and nesting habitat for migrating songbirds, shorebirds, and wading birds, and provide the essential life needs for river otter and beaver. They offer hiding cover for some waterfowl and are vital drinking water sources for most wildlife species using the area.

New River's estuary habitat extends from an area between the outlets of New Lake and Croft Lake to the mouth of the river. This estuarine effect often only occurs from mid-October to the end of July when the mouth of the river is open to ocean flow.

A small tidal effect which is most dramatic from Four-mile Creek to the New River mouth provides various sized sand/mudflats for shorebird foraging. Some sand/mudflats are flooded by tides during the fall and spring and are critical feeding sites for large numbers of resident and migratory shorebirds.

Mixed Conifer/Shrub

The mixed conifer/shrub communities are dominated by many species of woody vegetation, including Sitka spruce, shore pine, and Douglas fir. A few Port Orford cedar are also present.

Numerous shrubs are present, the most common being hairy manzanita, evergreen huckleberry, and salal. Upland shrub areas located east of the river and generally in the northern Storm Ranch area are dominated by European beachgrass, manzanita and willows.

Anecdotal accounts from long time local residents indicate that shrub and forest communities have increased dramatically in the last 20 to 30 years. Before then, most of the area was comprised of shifting sand dunes (R. McKenzie pers. comm. cf Christy 1981). Maps from 1939 show that the stretch of land between Floras and Four-mile Creeks was primarily open sand dunes (Cooper 1958) with some wetlands interspersed. Historically, these communities may have been controlled by periodic disturbances such as moving sand and fires. In the absence of these factors, particularly in the wind sheltered areas, there has been an increase in sitka spruce, shore pine, and Douglas-fin (Franklin and Dymess 1973).



It's just a matter of time before shrubby species such as azaleas and rhododendrons become overtopped by conifers as succession takes place.

Birds feed, rest and nest in these shrub habitats and many of these small birds are migratory. The sharp-shinned hawk uses several habitats, but probably spends much of its time hunting in shrubs. The upland scrub is also prime habitat for blacktail deer, porcupine, rabbits, wood rat and opossum. Other likely inhabitants of the upland scrub are reptiles such as western fence lizard and western terrestrial garter snake.

Shore Pine/Beachgrass

Shore pine and Sitka spruce forests dominate the easternmost portions of the ACEC. The shore pine community consists of two types, depending on the amount of moisture. In drier shore pine communities the understory is scattered beachgrass and mosses and in wetter areas the understory consists of sedges and willows.

The drier forests provide wildlife such as deer and squirrel, with a variety of fungi (see Appendix C for a species list), which are a food resource during the spring and fall seasons of me year (USDA, Forest Service, 1985).

Other Habitats



A typical shore pine and beachgrass community.

Among the common forest birds are the great-homed owl, Swainson's thrush, robin, Steller's jay, wrentit, and Wilson's warbler. Few cavity-nesting birds or animals have been observed, probably due to the young age of the forest.

There are minor amounts of coarse woody debris, but what is present provides important habitat for salamanders, rodents, and various invertebrate species.

Meadows/Grasslands/Pastures

Meadows, grasslands and pastures occur in the eastern portion of the ACEC and are also interspersed throughout the other upland habitats. Species present in these



Shorepine are invading most of the grassland areas at Storm Ranch. Ultimately, the grasslands will disappear to be replaced by shore pine forest.

communities include: tufted hairgrass, California oatgrass, Oregon-grape, beat-berry, Fremont's death-camas, iris, and cat's-ear sego lily.

These areas provide important habitat for the migrating Aleutian Canada goose, many rodents, shrews, snakes, and frogs. Meadows near open water habitat, especially those that are fully exposed to the warmth of the sun may be used by nesting western pond turtles. Meadows that are open, are frequented by black-tailed deer, particularly when new grasses emerge.

Willow/Sedge

The wettest shore pine/beachgrass area, such as those along the river, are dominated by willows and sedges such as Hooker's willow and slough sedge. Perching birds such as warblers and flycatchers rely on such habitats when nesting and foraging for insects. Much of this habitat is on private land.



Other Habitats

Open Water: New River's open water habitats support several species of ducks and two subspecies of Canada goose. Many of these waterfowl nest along the river's banks and nearby lakes. Other species of waterfowl use

the open waters to forage and rest during their spring and fall migrations. Some species that do not normally frequent the New River area may take refuge in the area during storms. Open water also provides rearing and migration routes for juvenile salmon and other fish. River otters and seals use New River to feed on these fish and aquatic food sources. Western pond turtles, a special status species, have been seen in the river and may also occupy other still water areas. Beavers are common in the area, found mostly in the tributaries to New River and the small lakes and other wetlands on private and public lands.

Additional ocean water exchanges occur in small amounts at low points along the dune where high tidal waves sometimes cross the foredune. The effect of this action on wildlife populations is unknown, but it may have a positive effect of improving feeding conditions for migrating populations.



Western Lily

Special Status Plant Species

In spite of New River's vegetation changes, 14 special status plant species either occur or are suspected of occurring (meaning that habitat is present) on the ACEC. Plants which have special status designation require some sort of habitat management. Three species are of special mention - one is listed as federally Endangered while the other two are federal candidates for listing.

Western lily, a federally Endangered species, was recently discovered on BLM-administered lands. New River is included in an area identified by Ballantyne (1980) as historically having the greatest concentration of western lily populations in Oregon. Western lily ranges from Coos County, Oregon to Humboldt County California. It is almost always found on Blacklock type soils (soils with a cemented hardpan) in habitats such as coastal bogs, prairies and forest edges. Threats to this species include loss of habitat from development (especially agricultural and residential), plant succession, and grazing. Management activities, such as brush removal and fencing, can alleviate the latter two threats,

but development, especially on private lands, cannot be controlled. That is why areas such as New River are vitally important in the protection of sensitive species. The BLM is currently involved in a project with the Berry Botanic Garden in seed collection and propagation, which may eventually lead to an experimental introduction of this species in the ACEC.

Pink sand verbena is currently a Federal Candidate, Category 2 species and is listed as Endangered by the State of Oregon. This species historically occurred from Vancouver Island, British Columbia to central California. It has since been extirpated from British Columbia and Washington, and less than five occurrences remain in Oregon. Habitat for pink sand verbena includes sandy beaches above the high tide line and possibly dunes further inland. The primary threats to pink

sand verbena is loss of habitat from the encroachment of European beachgrass, and disturbance from off-highway vehicles (OHVs). The Oregon Department of Agriculture (ODA) has recently introduced a population of this species within the ACEC as part of their recovery efforts.

Silvery phacelia is a Federal Candidate, Category 2 species and has been proposed as threatened by the State of Oregon. This species occurs on sandy beaches and coastal bluffs from Coos County, Oregon to Del Norte County, California (where only four occurrences are known). This species is also threatened by loss of habitat from European beachgrass and disturbance from OHVs. Three occurrences are currently known from within the ACEC.

Exotic (Nonnative) Plants

Along with European beachgrass, many other exotic plant species occur at New River. Some of these have been intentionally introduced (Scotch and French broom,

Table 1. Special Status Plant Species

Table 1. Special Status Plant Species Documented or Suspected at New River

Species Name (Common & Scientific)	D/S ¹	Federal Status ²	ONHP List ³	BLM Status ⁴
Yellow sand verbena (<i>Abronia latifolia</i>)	D	none	3	TS
Pink sand verbena (<i>Abronia umbellata</i> ssp. <i>brevifolia</i>)	S	FC2	1	FC2
Earth brodiaea (<i>Brodiaea terrestris</i>)	D	none	2	AS
Beach evening-primrose (<i>Camissonia cheiranthifolia</i>)	D	none	3	TS
California pitcher-plant (<i>Darlingtonia californica</i>)	D	none	4	TS
Russet cotton-grass (<i>Eriophorum chamissonis</i>)	D	none	2	AS
Whorled marsh penny royal (<i>Hydrocotyle verticillata</i>)	S	none	2	AS
Western lily (<i>Lilium occidentale</i>)	D	PE	1	LE
Bog club-moss (<i>Lycopodiurn inundatum</i>)	D	none	2	AS
Timwort (<i>Microcala quadrangularis</i>)	D	none	2	AS
Paintbrush owl-clover (<i>Orthocarpus castillejooides</i>)	D	none	3	TS
Silvery phacelia (<i>Phacelia argentea</i>)	D	FC2	1	FC2
Sticky tofieldia (<i>Tofieldia glutinosa</i> ssp. <i>glutinosa</i>)	S	none	3	TS

¹D = Documented S = Suspected (Habitat present)

²FC2 = Federal Candidate (Category 2)

LE = Listed Endangered under the Endangered Species Act

³Oregon Natural Heritage Program status

List 1 - threatened or endangered throughout range

List 2 - threatened or endangered in Oregon but more stable elsewhere

List 3 - Review List; is needed before status can be determined.

List 4 - Watch List; species of concern but threatened or endangered.

⁴BLM Status

AS - Assessment Species TS - Tracking Species

European beachgrass, pampas grass, cranberries, and gorse) or have escaped and become naturalized (many exotic grass species used in livestock forage). Some of these exotic plant species are considered noxious weeds (plants officially determined to be injurious to crops, livestock, public health, or property). Noxious weeds which are known to occur at New River include; Scotch broom, French broom, gorse, and tansy ragwort. Other species, such as European beachgrass, pampas grass and acacia are not considered noxious but nonetheless degrade natural plant communities and change wildlife habitats.

The Noxious Weed Control Program of the Oregon Department of Agriculture has identified three classifications which define either the history of the noxious weed or the extent of needed control efforts. For example, 'A' weeds are not yet found in Oregon, but are expected to enter the state in the near future, or have already established but are very restricted in their current range. At this time, no 'A' weeds are found at New River.

The second category of noxious weeds are 'T' weeds. These plants are priority targets for control efforts because they have some trait which makes the species noxious. Gorse, for example, is listed as noxious due to its capacity to dominate the landscape, its potential as a fire hazard, and the difficulty and expense of its control. Tansy ragwort is another example of a 'T' weed which occurs at New River.

The third classification of noxious weeds is 'B' weeds. These plants are expanding their ranges and increasing in density within their range. Scotch and french broom are examples of 'B' weeds which occur at New River.

Other exotic species may not yet be listed as "noxious", but impact natural resources such as wildlife and native plants.

European beachgrass is not listed as a noxious weed and continues to be planted in parts of Oregon for dune stabilization. However, European beachgrass as well as these other species outcompete native vegetation, take over an area and reduce biological diversity. Change in plant communities and reduction in native plant diversity will affect wildlife populations. An example found at New River and other places along the Pacific Ocean, is European beachgrass's negative impacts on the coastal population of western snowy plovers.



Bright yellow Ray flowers are a distinctive feature of tansy ragwort.

Exotic (Nonnative) Animals

Several exotic wildlife species continue to exert an influence on native wildlife populations in the New River area. Usually this influence is negative due to factors such as direct competition for food and/or nesting sites, or predation of native wildlife's young. Nonnative bullfrogs and largemouth bass eat salamanders, and the young of waterfowl, western pond turtles, salmon, cutthroat trout and other frogs. These two predators are found in most of New River's freshwater wetlands, including Muddy Lake.

Native songbirds and their young are prone to strong predation and nest destruction by many other native wildlife species. However, in addition to these risks, starlings and house sparrows, both introduced species, successfully compete with songbirds for nesting sites and food. Also, feral cats are present in the area and are known to significantly reduce resident and migratory songbird populations.

Another introduced species, the opossum, has adapted well to living on the dunes in the niche created by

European beachgrass. Both feral cats and the opossum take a heavy toll on ground-nesting birds such as the snowy plover, California quail, and killdeer.

Fire History

Catastrophic fire occurrences affected New River but exactly how these fires affected habitat development and plant communities is open to speculation since no data on fire history has been compiled. The fire management plan states that fire may be used as a habitat management tool for small tracts of land in the New River area. The Coos Forest Protection Association (CFPA) currently “safeguards” the land, but not structures or improvements.

Forest Product Harvest

Little to no saleable timber exists on New River lands. Most of the conifers are Shorepine and not currently suitable for commercial harvest.

The area has salal, ferns, huckleberry, grass, wildflowers and some edible mushrooms. Marketable items include the salal, ferns and mushrooms. Personal use mushroom harvesting has expanded into commercial picking and numerous small trails, developed during mushroom season, are now evident throughout shorepine habitats.

During the 1992 season a controversy developed between mushroom harvesters at New River. Due to this controversy, raking of prime mushroom habitat occurred which decreased the productivity of beds. Mushroom harvesting was then closed at New River (November 1992) and reopened for personal use harvest during the season of 1993. In 1993 and 1994, raking again severely damaged the beds.

Wildlife Species Inhabiting New River Area

The variety of habitats described in the preceding section provide a range of communities which support a diverse and abundant wildlife resource. Although individually distinct, the communities interconnect to support a very unique wildlife habitat resource, supporting a diverse species richness.

Although baseline inventories at New River are incomplete, observations to date indicate that approximately 200 species of wildlife use the New River area for some parts of their life cycle (see Appendix D). There is also potential habitat for approximately 40 other species.

Several federally-listed or proposed special status species of wildlife occur in the ACEC (see Table 2). The value of this diverse species composition, including special status species, is one of the major reasons the area was designated an Area of Critical Environmental Concern.

Some studies have shown how the mere presence of the human form, or the sound of a human voice or machine causes increased stress in some wildlife species.

Ten Wildlife Categories Represented at New River

- **Waterfowl** (migrants and residents)
- **Shorebirds** (migrants and residents)
- **Gulls and terns**
- **Perching birds** (resident and migrants)
- **Reptiles and amphibians**
- **Invertebrates** (including mollusks)
- **Small mammals** (river otter, mink, beaver, shrews, mice, pocket gophers, and other small rodents)
- **Raptors** (eagles and hawks)
- **Large mammals** (deer and historically elk, bear and mountain lion)
- **Occasional marine species**, such as seals.

In general, all wildlife species require several habitats to meet their life needs, although they are often associated with a few key habitats. Wildlife maps are located in Appendix D. Map D-1 shows the habitat preferences for waterfowl in general, while Map D-2 shows habitat for shorebirds. Maps D-3 to D-5 show the general locations of habitats by selected species. Because the New River area is long and narrow, each map is broken into 4 pages representing the north, middle north, middle south and south parts of the area.

Table 2. State and/or Federally-Listed Special Status Wildlife Species Documented or Suspected at New River ACEC.

<u>Species</u>	<u>Status</u>
<u>Aleutian Canada Goose</u> <i>(Branta canadensis leucepareia)</i> This species migrates through the area between New River and Bandon Rocks in spring (March 15 to May 1) and fall (October 15 to November 30). The New Lake outlet area is currently the only identified use area in the ACEC. Most of the resting and foraging activities of these geese occur on the wetlands/pastures of adjacent private lands (Map D-3 in Appendix D).	FT
<u>American Bald Eagle</u> <i>(Haliaeetus leucocephalus)</i> Bald eagle feeding activity has been observed along New River from Fourmile Creek to Floras Lake for several years, and recently a nest was discovered in the Floras Lake area. Bald eagles, especially juveniles, maintain a wide hunting area, using open beach areas for feeding and bathing but also requiring tall perching structures for resting and roosting (Map D-4 in Appendix D).	FT
<u>Brown Pelican</u> <i>(Pelecanus occidentalis)</i> This species is commonly seen in the area, primarily over the ocean and at the mouth of the river.	FE
<u>Harbor Seal</u> <i>(Phoca vitulina)</i> The harbor seal is protected under the Marine Mammal Protection Act of 1972, and is commonly seen near the mouth of New River.	
<u>Peregrine Falcon</u> <i>(Falco peregrinus)</i> The peregrine was once widespread in the United States. Now the Oregon coast is one of the more persistent wintering areas for the two Peregrine falcon subspecies still seen in the country. Their diet includes waterfowl and shorebirds. Perching sites range from fence posts to tall trees. They hunt in wide open areas but seek cover from the wind and storms near the forest. Peregrines use the entire stretch of New River for hunting (Map D-4 in Appendix D).	FE
<u>Red-legged frog</u> <i>(Rana aurora)</i> Red-legged frogs are commonly found in all wetland areas throughout the New River system.	FC2
<u>Sea Turtles</u> Loggerhead Green Sea Pacific Ridley Leatherback	FT FT FT FE
These turtles are rarely observed at New River, and then only on the ocean beaches. The last two observations were in 1991 when turtle tracks were seen in the sand at the southern portion of the ACEC near county lands.	
<u>Western Pond Turtle</u>	FC2
This species, the only native freshwater turtle found in Southwest Oregon, has previously been observed in the vicinity of Floras Creek outlet and Muddy Lake, and has recently been documented in New River at the mouth of Bono Ditch. The New River area provides good low gradient river habitat and several wetlands and ponds (Map D-5 in Appendix D).	
<u>Western Snowy Plover</u>	FT
Western snowy plovers are small shorebirds which extensively use open sand and small cobble areas of the ocean shoreline. These areas with small cobble and shell debris are critical to the survival of the plover because of their importance as breeding sites. Plovers nest from March to September and nest sites are easily disturbed by animal predators and human activities. If a brood or nest is destroyed, breeding attempts may continue until a nest is successful or until the end of the breeding season. When a brood hatches, the birds generally migrate north, foraging along the open sand until the young fledge (Map D-3 in Appendix D). The beach near Floras Lake is one of the most important nesting areas for snowy plovers on the Oregon Coast.	

FT = Federal threatened
 FE = Federal endangered

FC = Federal candidate
 FC2 = Federal candidate, list 2 - not enough is known to make decisions to move forward in listing process.

Condition of Wildlife Habitat

Many biological inventories remain to be done at New River. Most habitats are thought to be in good condition and the diversity of habitats continue to support a large variety and number of wildlife. However, the abundance of European beachgrass continues to alter the natural habitat. It creates a niche and provides a home for some terrestrial predators such as raccoons, striped skunks and opossums which would have difficulty living on an open dune, but thrive on a site dominated by European beachgrass where the grass provides opportunity for burrow/cover development. The presence of these predators increases stress on native animals such as the western snowy plover, whose nests are preyed upon. Recently acquired lands west and northwest of Floras Lake provide critical nesting habitat for the snowy plover. This area is one of the few remaining active nesting sites remaining on the Oregon Coast.

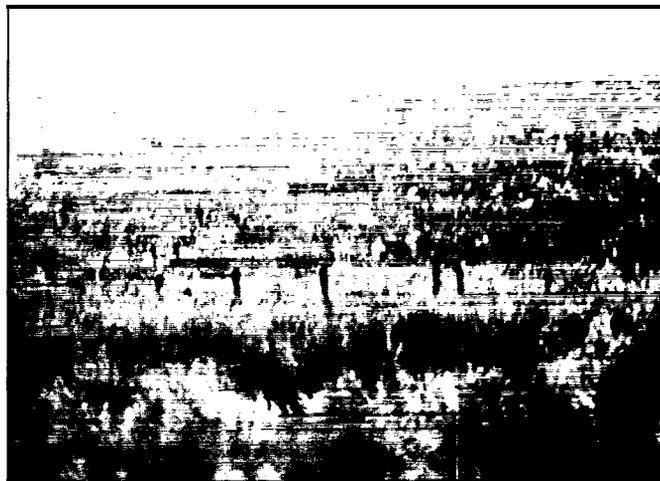
Water Flow

During drought conditions, New River often dries in several locations during the summer months, partially as a result of drought or upstream water diversion for irrigation. During these periods, lower water levels reduce productivity of the aquatic resources and have a



Young Great Horned Owl

direct impact on beaver, river otter, osprey, and the American bald eagle, as well as the fishery resources (see fishery section).



Geese must be more watchful in tall grass (shown here) than grazed areas. **Photo credit: O.D. Swisher.**

Development and Human Activity

Human activity contributes to the harassment of wildlife through most seasons of the year, but is nearly impossible to quantify. Some studies have shown how the mere presence of the human form, or the sound of a human voice or machine such as a motor vehicle, causes increased stress in some wildlife species (Werschkul et. al., 1976; Purdy et. al., 1987; Vaskel et. al., 1983; Bart and Robson, 1982). Examples of human activities that can cause impacts, especially when occurring in key wildlife use areas, are picnicking, harvesting of special forest products, hunting, fishing, trail hiking, and allowing pets to run free. Currently, feral house cats may be adversely impacting the area's wild bird and small mammal populations (Langenstein pers. obs. 1993).

Several historical land uses have altered the diversity of wildlife habitat in the general New River area. These uses have included converting wetlands to cranberry fields, straightening stream channels, removal of large woody material and riparian vegetation, diking and ditching and clearing forest lands to create open dryland pastures or cranberry fields (more recently), and artificially breaching the river at the mouth or at other points along the river (Ursitti and Carpenter 1986). Although these activities singularly do not contribute

significantly to problems, their cumulative effect could be substantial (Ward and Stanford 1987).

Some land uses have beneficial impacts. Livestock grazing on private lands, for example, provide excellent foraging areas for the Aleutian Canada Goose.

The geese prefer these areas of low growth to give them an unobstructed view to watch for predators.

Some land uses have beneficial impacts. Livestock grazing on private lands, for example, provide excellent foraging areas for the Aleutian Canada Goose.

Fisheries

The New River basin contains a diverse array of aquatic habitats and fish species (see Table 3). New River and its tributary lakes and streams are home to four species of anadromous fish and several freshwater lake, freshwater stream, estuarine, and marine fish species. Although the majority of fish species are native to the region, some (including largemouth bass and rainbow trout) were introduced to enhance recreational fishing.

The small estuary where fresh water from the river merges with salt water from the ocean is high in nutrients, contributing to plant and animal productivity. Estuaries such as this one not only provide a specialized habitat for certain fish species, but also support a mix of species which can be found in either freshwater or marine (ocean) environments.

While there is a diversity of fish and fish habitats in the New River area, some fish populations are the subject of concern. Coho salmon populations in the New River system are severely depressed from historic levels, and have been petitioned for federal listing under the Endangered Special Act (July 1993). All Pacific Coast

stocks of steelhead trout have also been petitioned for federal listing (February 1994). Coastal stocks of fall chinook and coho salmon from New River south to California are listed as state sensitive (critical) according to ODFW (1992). Floras Creek coho salmon and all coastal populations of sea-run cutthroat trout are considered to be "at risk" of extinction by the American Fisheries Society (Nehlsen et. al. 1991). Chinook, sea-run cutthroat, and steelhead populations in the New River system may be in somewhat better condition than in other southern Oregon coast systems. However, there is little scientific data available from the New River-Floras Creek area from which to base strong conclusions.

Because of New River's isolation and limited access, use of the area has generally been low and predominated by the local fishing public. However, fishing use is expected to increase along the entire river as the southern Oregon coast becomes more populated, public access is improved and public awareness of New River is broadened. Predicting how an increase in fishing may impact the salmon fishery over time is difficult due to constant environmental change and the lack of adequate scientific information in the New River basin.



Fisheries biologists use seining nets to count fish in New River.

Condition of Fisheries Habitat

Spawning and rearing habitat for coho salmon has declined throughout the New River basin (ODFW 1989). Contributing factors include elimination of wetlands and channel straightening (Carpenter & Ursitti 1986, US BLM in-house report), removal of riparian vegetation and large woody material, increased sediment yields

from timber harvesting activities along tributary streams, introduction of warm water fish species to freshwater lakes, and low summer flows/high water temperatures brought on by drought and agricultural water diversion.

Historically, throughout the year, lake and stream features in the New River area provided coho salmon

Table 3. Fish Species in New River

Table 3. Fish Species in New River

Common Name	Scientific Name	Habitat ¹	Duration ²
<u>Known to Exist</u>			
Chinook salmon ¹	<i>Oncorhynchus tshawytscha</i>	Fs,E,M	A
Coho salmon ^{3,4,5}	<i>Oncorhynchus kisutch</i>	Fs,Fl,E,M	A
Cutthroat trout ⁴	<i>Oncorhynchus clarkii</i>	Fs,Fl,E,M	A
Steelhead trout ⁵	<i>Oncorhynchus mykiss</i>	Fs,Fl,E,M	A
Rainbow trout	<i>Oncorhynchus mykiss</i>	F1	A
Largescale sucker	<i>Catostomus macrocheilus</i>	Fs,Fl	A
Shiner perch	<i>Cymatogaster aggregata</i>	E,M	I
Bay pipefish	<i>Syngnathus leptorhynchus</i>	E,M	I
Starry flounder	<i>Platichthys stellatus</i>	E,M	A
Threespine stickleback	<i>Gasterosteus aculeatus</i>	E	A
Staghorn sculpin	<i>Leptocottus armatus</i>	E,M	A
Prickly sculpin	<i>Cottus asper</i>	Fs,Fl	A
Largemouth bass	<i>Micropterus salmoides</i>	Fs,Fl	A
Pacific lamprey	<i>Lampetra tridentata</i>	Fs,E,M	A
<u>Likely to exist, but not sampled</u>			
Bluegill	<i>Lepomis macrochirus</i>	Fl	A
Brown bullhead		Fl	A
Western brook lamprey	<i>Lampetra richardsoni</i>	FS	A

¹Habitat
Fs - freshwater stream
Fl - freshwater lake
E - estuarine
M - marine

²Duration
A - all year
I - intermittent

³ State Sensitive Status: Critical is defined as: "Species for which listing as threatened or endangered is pending; those for which Listing as threatened or endangered may be appropriate if immediate conservation actions are (1992).

⁴Coho salmon is at risk of extinction, and cutthroat trout is risk (Nehlsen 1991).

⁵Petitioned for federal listing as threatened or endangered under the Federal Endangered Species Act.

with rearing habitat including deep pools and off channel areas in their nursery streams, as well as lakes, ponds and open wetlands. These habitats were especially important in providing slow moving water and abundant cover for young fish to survive winter floods. Juvenile coho salmon may continue to use habitat in New Lake, Croft Lake and Floras Lake throughout the winter before dropping down into New River for their seaward migration,

In the early spring-several weeks to months after emerging from the gravel-young chinook salmon begin migrating down Floras Creek to New River. Chinook smolts (juvenile fish that have begun their physiological adaptation to saltwater) rear throughout New River and its estuary during summer and enter the ocean between June and October.

Although spawning habitat for chinook salmon has been reduced in Floras Creek, rearing habitat for juveniles has expanded as a result of the formation and lengthening of New River during this century. However, in some years, juvenile chinook salmon migration partially coincides with channel drying between Bono ditch and New Lake outlet. This drying of the river isolates juvenile fish in scattered pools and subjects them to higher predation, suffocation and temperature stress.

Juveniles surviving migration through this low-flow/partially dry section take advantage of rearing habitat downstream. Large, deep pools persist during drought periods in the braided and meandering channels in New River near New Lake outlet. These channels contain abundant undercut bank and edge habitat that provides excellent cover for chinook salmon and cutthroat trout.

Growth of chinook salmon in New River may be limited by dwindling food resources after the mouth closes, or by decreased stream flow and elevated water temperatures during late summer. Even when flow is continuous throughout summer, water temperatures in New River can reach 76° F, which is outside the acceptable water temperature range of 45° F to 65° F. A continuous, uninterrupted surface flow in New River would allow fish to migrate through even shallow riffles (less than one foot deep), and reduce the chance of temperature stress, mortality and predation.

For more detail about fisheries, see Appendix E.

Cultural and Archaeological Resources

New River has a rich and varied cultural and archaeological history. Twelve prehistoric sites have been discovered on or adjacent to the New River ACEC, but ethnographic records suggest other unrecorded sites are also present. Historic resources include the Westmoor cranberry bogs, and the remains of the Cox homestead southwest of New Lake.

Two distinct periods of Native American occupation are represented at New River. The oldest dates from 3,000 to 8,000 years ago, while the more recent occupation probably dates from 900-1850 A.D. None of the older sites have been scientifically excavated. The Strain Site, a late period occupation site near the outlet of Floras Lake, was excavated by the University of Oregon in 1959.

Early Sites (6,000-1,000 B.C.)

The early sites are found in association with Blacklock Series soils, which underlie much of the New River area. This deposit contains a large amount of organic debris and charcoal, and probably supported a dense spruce forest at one time. Pollen studies at Garrison Lake to the south and Tahkenitch Lake to the north suggest that much of today's coastal plain was a shallow estuary 5,000 years ago. Early sites probably border these ancient estuaries, as is shown by the presence of these sites on almost all of the low ridges surrounding the New River basin,

Early sites at New River are characterized by the presence of large leaf-shaped and broad-stemmed projectile points that were probably used for hunting large game animals such as deer and elk. Large side-scrapers and edge-ground cobbles used to process hides also are found at these early sites.

Perhaps the most important early site is near the outlet of Croft Lake where numerous artifacts were found among the stumps of an ancient spruce forest. This site covers several acres, but only the outer edge eroding into New River is readily apparent. Jack Storm, a longtime area resident, bulldozed the topsoil in several spots between Croft and Muddy lakes and New River from 1950 to 1970 and uncovered a large number of broad-stemmed projectile points which he sold to local collectors.

The men of the village fished and hunted along the marsh edges while the women collected seeds and berries from local plants.

Evidence found at New River includes fine-cracked rock, lithic debris (sherds and chips), broken jasper nodules, and unfinished and finished artifacts. These suggest that the area was probably used for salmon procurement, big game hunting, huckleberry picking, tool manufacturing, shellfish gathering and semipermanent habitation. The varied nature of the activities and possible short duration of visits probably accounts for the scattering of evidence over most of the drainage.

Some local collectors claim that, before beachgrass stabilized the dunes, lithic debris and projectile points were evident across most of the broad terraces bordering New River's east side from Four-mile Creek to Floras Lake. Today, these sites are covered with forests or shore pine, but any subsurface disturbance will reveal their location.

Recent Occupation, Qua-To-Mah and Lower Coquille (900-1850 A.D.)

During the last 1500 years, the Gunther Tradition became dominant at New River, Where earlier cultures (termed the Glade Tradition) had relied on thrusting spears and darts hurled with atlatls to kill big game, the Gunther Tradition people manufactured thin and extremely barbed

projectile points and relied on a broad spectrum of economic resources, with an emphasis on fish and shellfish. Other artifacts characteristic of this occupation include oval-shaped knives used to butcher fish, hopper mortar bases used to process plant products and large quantities of fire-cracked rock from camp fires.

The Qua-To-Mah and Lower Coquille people probably occupied the New River drainage for most of this period. Descendants of the Quo-To-Mah today are members of the Confederated Tribes of Siletz Indians of Oregon, while descendants of the Lower Coquille Indians are members of the Coquille Indian Tribe. Well before New River formed, their villages were located near what would become its three main historic outlets: Four-mile Creek, New Lake, and the lower end of Floras Creek. Shell middens (trash heaps) at these points developed from a native diet heavily reliant on mussels and shellfish. These sites were quite visible and most middens have been destroyed by local collectors.



The New River area provided plentiful food for Native Americans including shellfish, mussels, deer, elk, fish, waterfowl, seeds and berries. **Original artwork: Peggy O'Neal.**

The best examples of Qua-To-Mah/Coquille occupation sites are found on both sides of the outlet of New Lake. Although most of the middens have been degraded, extensive lithic manufacturing stations and some artifacts associated with plant processing are still present. As with the early sites, much more would be visible if there was less surface vegetation,

Ethnographic records reveal that the Qua-To-Mahs and Lower Coquille lived in semipermanent villages on

elevated terraces near the confluence of streams with the ocean. They traveled by canoe to reefs near Blacklock Point to collect shellfish when the ocean was calm. During the summer, camas and brodiaea bulbs were gathered in nearby meadows. Salmon were speared, netted or taken in traps during fall migrations up the shallow streams that now feed New River. The men of the village fished and hunted along the marsh edges while the women collected seeds and berries from local plants.

*A*rea swamps must have been a rich food source to support so many prehistoric camps and villages. Land mammal hunting received specialized emphasis at New River because of the availability of deer and elk along marsh edges.

The Strain Site, where both Native American and Euro-American artifacts were found, is indicative of this recent age occupation. The remains of five rectangular plank houses were found atop a low knoll near the Floras Lake outlet. Artifacts found at the site indicate that village residents relied primarily upon deer and elk, with fish and shellfish of secondary importance. This contrasts with the focus of many sites from this time, which appear more oriented towards marine rather than terrestrial resources.

Perhaps the most important value of archaeological sites is what they reveal about ancient environments and the plants and animals found there. Area swamps must have been a rich food source to support so many prehistoric camps and villages. Land mammal hunting, not generally considered to be of particular importance as compared to fishing in typical Gunther Tradition sites, received specialized emphasis at New River because of the availability of deer and elk along marsh edges. Closer examination of the faunal record would probably reveal the additional importance of waterfowl and shorebird hunting here.

Many of the prehistoric sites are extensive, in some cases as much as two acres. None of the sites have been tested, but discussions with local collectors indicate that some of the sites are deep, well-stratified middens with features associated with long term use. Projectile points found at these sites suggest that the area had been occupied for between 3,000 and 8,000 years. Site functions range

from semipermanent villages to seasonally-occupied campsites and lithic manufacturing stations.

Some of these sites may be eligible for the National Register of Historic Places. Subsurface testing will be needed to ascertain the level of significance. It may be desirable to nominate all the sites as a historic district.

The New River historic sites probably are not as significant as the prehistoric ones. The Storm Ranch house, built in the early 1930's, does not represent any unique architectural style and all that remains of the Cox homestead is a concrete foundation, scattered metal and glass debris, and some ornamental plants. The Westmoor cranberry bogs, planted around 1915, may be the most significant of the historic resources. These are some of the oldest bogs in the area, and contain the Stankevich variety of cranberry, which was developed in the New River area by crossing wild and domesticated vines. As a unique rural historic landscape, these bogs may be eligible for the National Register of Historic Places.

The prehistoric sites in the ACEC are fairly well-protected at the present time, thanks to a cover of stabilized sand dunes and a dense forest of shore pine. Some of the sites along the shoreline are suffering from slight wind and wave erosion, but as the riparian vegetation along the river improves, this threat will diminish. At one time, collection of surface artifacts and subsurface digging in archaeological sites was a serious problem at New River. Today, this is not a problem, largely because the sites are obscured by surface vegetation and the dunes.

Native American Concerns: The aboriginal territory of both federally-recognized Indian Tribes encompass the New River area. These tribes are interested in protecting cultural sites within their territories, and a Coquille Indian tribal elder has participated on the New River Steering Committee.



Recreation

For the most part, the lands near New River have been in private ownership and public recreational uses were limited. The area is rural and rural recreation has generally revolved around consumptive uses such as fishing and hunting. Historically, most of the users have been local people who knew the landowners and got permission to fish or hunt on the private lands.

When Jack and Ruth Storm owned Storm Ranch they generated income from recreational uses. They allowed anglers onto their land for day use at \$1.00/vehicle in the 1950s and '60s and for \$2.00/vehicle in the late '60s into the '70s. Long time residents report that the fishing was so good it was not uncommon to see 100 anglers each with a catch of at least one fish (personal communication with Reg Pullen, 1993). The Storm Ranch was locally famous for its fishing of coho and chinook salmon, sea-run cutthroat trout and redbelt surfperch (*Amnhistichus rhodoterus*), also called pink-tail or pink-fin perch. The perch was caught in the surf and at the mouth of New River. Jack Storm also sold containers of cured salmon roe (eggs) as bait for \$5.00 a container.

To maintain his fishery, Jack Storm breached the foredune every fall at or near the present day fishing area. The old breaching areas are still evident today and provide water flow between the river and ocean during high tides and winter storms. The clay shelf bordering the river on the east side allowed deep holes to form where the salmon would hide. Storm monitored his fishery daily and occasionally shot seals which were attracted to the rich food source.

Another popular recreational use was glass float hunting. Glass floats from Japanese fishing vessels would wash ashore near Storm Ranch. Glass float hunters, wanting to beachcomb, paid their day-use fee to Jack Storm and boated across to the foredune, which was much flatter and narrower than it is today.

Hunting and camping uses were minor compared to the fishing interest. Duck hunting occurred south of the Croft Lake outlet, and during the 1950s and '60s a duck hunting club was formed near New Lake. Jack Storm, however, did not encourage any hunting on his property, but did allow hunting south of Croft Lake outlet.

Some camping occurred on the Storm Ranch during fishing season. Local people as well as out-of-towners were provided camping areas with picnic tables for a nominal fee. The Storms would even go into town and pick up supplies for some of their guests. The solitude, peaceful environment and thoughtfulness of Jack and Ruth Storm kept visitors returning year after year to the New River area.

The solitude, peaceful environment and thoughtfulness of Jack and Ruth Storm kept visitors returning year after year to the New River area.

Between 1977 when the Storms sold the ranch and 1991 when BLM acquired it, the ranch was under two different ownerships (Allen and Wilson). During this time, access

to New River through the ranch was limited and resulted in reduced fishing opportunities. Currently, fishing interest continues to be high among local residents, although the fishery is reportedly a mere fraction of what it once was. Other recreational uses include horseback riding, picnicking, canoeing, mushroom harvesting, hiking, birdwatching, photography, and general day use. Recently, people have also been observed bicycling and jogging at New River.



Birdwatchers come from all across the state to bird watch at New River.

Storm Ranch averaged about 56 visitors per week during April and May 1993. During fishing season, visitation is considerably higher, with upwards of 100 people per day during the opening days of salmon season (Storm Ranch has the main fishing access). Approximately 2,000 visits occur per year at Storm Ranch.

Percentage of use:

fishing	56.7
duck hunting	3.7
observing wildlife	7.1
sight-seeing	12.9
mushroom picking	7.6
horseback riding	.7
other activities	11.3

are averages.
November
1992.

Most recreational use is from local residents since no signs are yet posted identifying the Storm Ranch. The estimated 10% out-of-state visitors to the area find Storm Ranch via word of mouth or because instate family members bring them to see New River.

The 111 acres at Floras Lake provides beach access north and south, The public is welcome on the beach between October and February. However, the snowy plover nests on this beach and is a federal threatened species. General human activities often frighten plovers off their nests and this in turn threatens the bird's ability to produce young. Therefore, BLM asks that the public stay on trails and avoid the beach between March and September due to impacts on the bird's breeding ability.

The Oregon Department of Lands (ODL) controls the State of Oregon Beach Access Zone. This zone is from the vegetation line to the low water line along the entire beach from Floras Lake to the outflow of New River. The beach is closed to Off Highway Vehicle (OHV) use,

Boating on New River, especially canoeing and kayaking is tenuous at best due to unpredictable winds and water level. Even boaters using electric motors are wise to take an extra battery due to the fierce and constant north winds. The waters rise at the onset of the first rains, usually in September or October. However, the north wind is most cold and constant during this time and can make for an unpleasant trip for the unprepared.

Sometime in April or May the rains stop and the best month for boating is April. Visitors are encouraged to stay in their boats while on the river because many portions of land along New River are private.

River access is from the Floras Lake outlet, Storm Ranch and the 14-acre property on Lower Four-mile Road. The Lower Fourmile Road property is best suited for canoe/kayak take out since there is no trailer access and boat removal involves a scramble up a four to six foot bank. The area is not conducive to other rural recreational uses since the land is surrounded by houses on private property.

There is a strong possibility that use limits may be necessary in the future if too many people want to float the river. Biologists have a concern that increased water recreation (boating, kayak, canoe, etc.) on New River will adversely affect migratory birds such as the Aleutian Canada Goose. Constant or pervasive human access to the more isolated areas will have drastic impacts on the ability of all the waterfowl to nest, eat and rest and could cause the area to become of little use to wildlife. Birds of prey such as bald eagles and peregrine falcons would also be negatively affected.

The recreational uses mentioned above indicate the New River area has three distinct visitor user groups: longtime locals who will continue to use the area for salmon fishing; locals who visit the area briefly, but regularly, for relaxation or exercise; and eco-tourists who are attracted to New River for its aesthetic, natural or wildlife values.

Recreational trend information gathered in a study for the U.S. Forest Service (Bergstrom and Cordell, 1992) indicates that certain recreational activities are on the rise and, if unmanaged, are likely to cause severe strain on resources. Demand is expected to increase in the New



Salmon fishing has always been a popular pastime for local residents.

River area for activities such as wildlife observation, nature study, primitive camping, walking, jogging, bicycling, backpacking, horseback riding, day hiking, photography, visiting historic and prehistoric sites, cutting firewood and collecting berries.

Facilities at Storm Ranch

Structures on the ranch are clustered around the ranch entrance and include a house, a horse arena and a stable. The Storm Ranch House is in very poor condition. An engineering inspection completed in 1992 showed the ranch house to be insect infested or rotten in almost 90 percent of its elements. The arena and stable are both structurally sound, but have been vandalized. The wood siding on both of these structures is coming off and presents a hazard to visitors. The arena front doors have been removed for safety reasons.

Water developments on the ranch include a shallow well (approximately 14 feet deep), a 1/2 horsepower pump with the capacity to provide 36 gallons of water per minute, a new 20-gallon holding tank, 0.75-inch plastic pipe, and an existing septic system. Restoration work was completed on the well the end of October 1993. Electricity is also available at the site for the use of the site host, with the recent addition of a new power pole and a security yard light. Upgrades to the ranch's water and electrical systems were done for the needs of site hosts.

A vault toilet was installed at the fishing area parking lot in March of 1993.



Waterfowl hunting has occurred for many years at New River.

Education and Research Opportunities

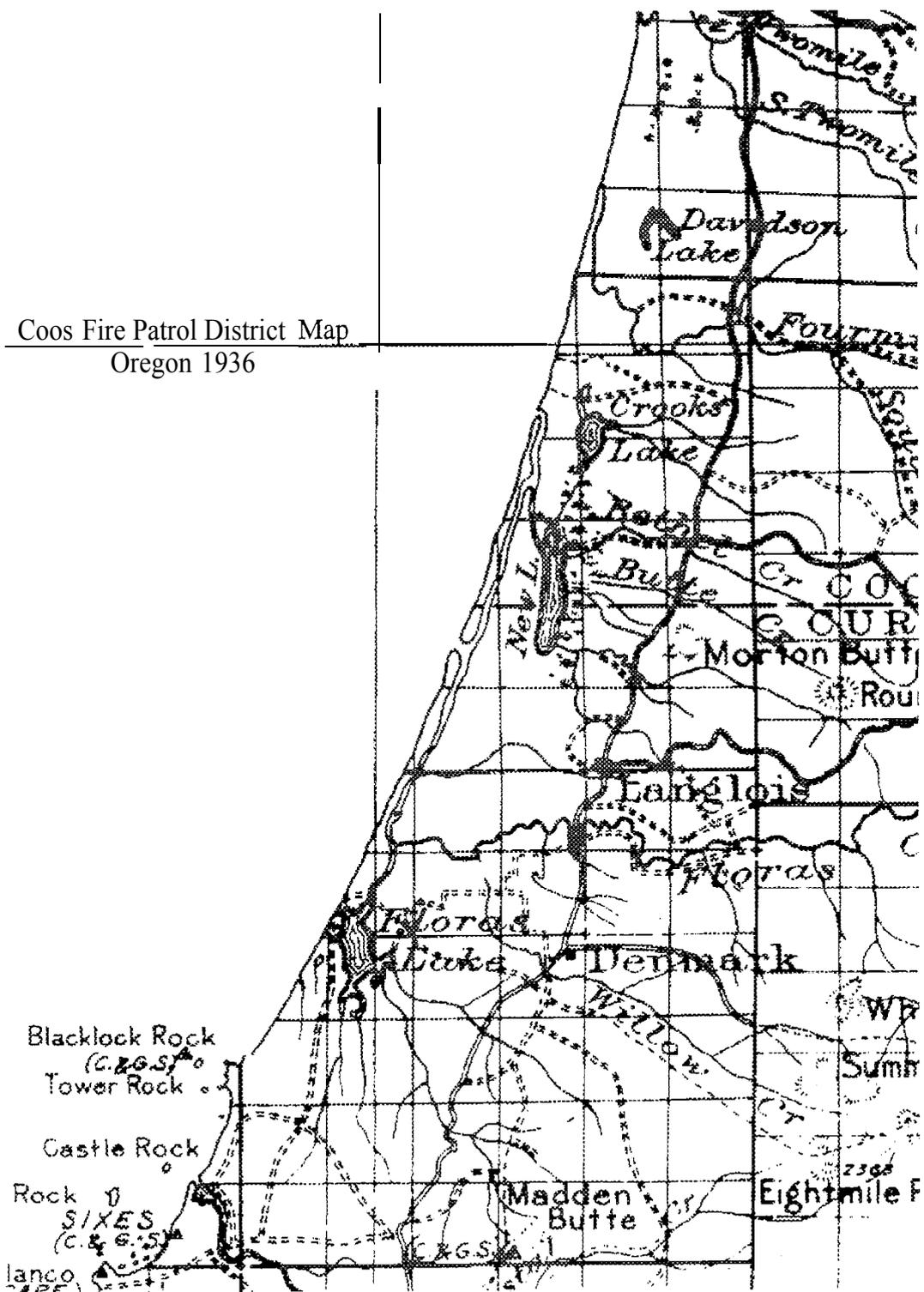
Environmental education opportunities currently exist for children and/or adults at New River. The extent of these opportunities need to be determined from a feasibility study which will determine whether there is a need for facilities and if so, what kind and how many. The level of use and people-impacts the area can support without resource degradation also needs to be factored into the equation.

Specialists, without exception, have identified the need for further inventories and research in the area (detailed in Part 3). Many inventories are necessary to insure compliance with the Federal Endangered Species Act, while others will identify trends in species populations, visitor use, water quality and quantity and much more. Some areas of management, such as fisheries and water quality, are somewhat independent of how BLM manages the area; for example, rain patterns, ocean conditions and fishing intensity affect the fishery while ODFW sets fishing standards. Water quality and quantity depend on users and uses upstream and yearly weather patterns. Greater information on trends will allow for updated and adaptive management decisions as time goes on - decisions which will protect New River's unique resources.

PART THREE

MANAGEMENT PROGRAM

Coos Fire Patrol District Map
Oregon 1936



PART 3

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Introduction to Management Program

The backbone of a management plan is its goals and objectives, which together establish the management direction and set forth, in writing, specific resource values to be addressed.

The four goals and eight objectives established for New River were developed through a planning process. These management goals and objectives are listed below, followed by details on each objective, including reasons for action and specific planned actions.

Planned actions are designed to be consistent with the management plan's goals and also to help meet one or more objectives.

Due to the interrelationship of the various resources at New River, many actions may apply to more than one objective. However, to avoid duplication, these actions have been listed under the objective where the link is most direct. Any additional actions identified at a later date will be analyzed for their application and design to ensure their appropriateness and compliance with the goals and objectives set forth in this management plan.

Management Goals for New River

Goal 1 -Manage habitat for biodiversity (a full range of native species, habitats, and ecological processes) and ecosystem health with special emphasis on sensitive wildlife and botanical species.

Goal 2 - Protect significant cultural sites from human disturbance or destruction.

Goal 3 -Manage for recreational activities to the extent compatible with Goals 1 and 2.

Goal 4 - Promote opportunities for education, interpretation and nature appreciation to the extent compatible with Goals 1 and 2.

Objectives

Obj. 1 - Maintain, enhance or restore ecosystem health, and ensure management which supports a variety of habitats at different successional levels, particularly (but not limited to) those which are necessary for the listed special status species using the area.

Obj. 2 - Establish suitable water flow and quality, and maintain riparian/wetland areas in a condition supportive of a healthy aquatic ecosystem.

Obj. 3 - Protect and interpret important cultural and archaeological sites at New River.

Obj. 4 - Accommodate low-impact recreational use at New River while providing a variety of experience opportunities and durations to help meet existing and anticipated demands.

Obj. 5 - Promote an awareness and appreciation for New River's many resource values, especially those significant to its ACEC designation; also foster a "Leave No Trace" land use ethic and similar attitudes in visitors at New River.

Obj. 6 - Provide adequate use supervision, visitor facilities, services, signing, and programs to protect resources and support planned visitor use activities and levels.

Obj. 7 - Provide reasonable access to visitor use areas and the river with minimal impact on natural/cultural resources and visitor experiences.

Obj. 8 - Facilitate improved management of the New River area through monitoring and research to learn more about the natural and cultural resources of the area.

The foremost theme of the management plan is to conserve the natural values at the New River ACEC for generations to come. Equally important is the BLM's commitment to flexibility and responsiveness in its management of the New River area.

The eight objectives are discussed further in four sections: Resource Management, Visitor Use Management, Site Administration and Development, and Monitoring and Research.

The foremost theme of the management plan is to conserve the natural values at the New River ACEC for generations to come. Equally important is the BLM's commitment to flexibility and responsiveness in its management of the New River area.

What is biodiversity? Biological diversity, frequently referenced as biodiversity, encompasses the variety of life and its processes. It can be divided into four major levels:

- Genetic diversity - Variety within a particular population or species of plants and animals.
- Species diversity - Variety of kinds of plants and animals.
- Community and ecosystem diversity - Variety of ways that species of plants and animals are naturally assembled in groups.
- Process diversity - Variety of physical, chemical, and biological forces to which the other three types of diversity must respond (Dennis and Ruggiero 1990).

PART 3 - THE MANAGEMENT PROGRAM

Resource Management

Reasons for Action

Wildlife and Plant Resources

Objective 1: Maintain, enhance or restore ecosystem health, and ensure management which supports a variety of habitats at different successional levels, particularly (but not limited to) those which are necessary for the special status species using the area.



• The BLM is required to follow federal laws and regulations and has policy to prevent the need to list fish, wildlife, and plants under the Endangered Species Act. Furthermore, the BLM is directed to encourage management which will lead to the successful recovery and eventual delisting of already listed species.

• Over the years, alterations to the habitat have interfered with natural community succession. For example, forested areas were changed to create pastures, shorepines were planted for windbreaks, and natural wetlands were converted to cranberry bogs.



It will soon be illegal to remove Darlingtonia under the State of Oregon's Wildflower Protection Law.

- Exotic (nonnative) vegetation, such as European beachgrass, gorse and scotch broom, is replacing native vegetation and opportunistically becoming established on sites otherwise unoccupied by grass or shrub species. For example, gorse and scotch broom are shrubs which are now becoming established in grassland habitats devoid of any native shrub. This spread of exotic vegetation is altering habitats and interfering with natural succession.
- Resource and vegetative management is necessary to maintain the natural communities, successional processes, and ecosystem health.
- Historic nesting areas of the snowy plover, a federal threatened species, have been altered by the introduction of European beachgrass and increased human access/activity on beaches.
- Some wetland habitats need maintenance or restoration to support waterfowl and shorebird populations which provide a prey base for bald eagles and peregrine falcons.

- ACEC designation and management guidelines for lands acquired in the New River area would help protect the ACEC's natural and cultural resources.

• Evaluation of livestock management practices is necessary to ensure they are compatible with soil and water, riparian, and fisheries objectives.

• Human recreation activities may disturb and/or destroy wildlife and fisheries habitats.

Planned Actions for Objective 1

Habitat Restoration and Maintenance

- Restore native vegetation and wildlife habitats through the development and implementation of a Vegetative Management Plan where possible. The plan will be coordinated with other agencies and private landowners.

The plan will identify acreage and prescribe removal methods for exotic plant species including European beachgrass, gorse, and scotchbroom. These prescriptions could include the use of fire, mechanical or manual removal, or herbicide application.

The plan will also prescribe management of special status plant species including the planting of native plant species to restore damaged plant communities. Monitoring will determine how well native vegetation reestablishes on treated areas.

Maintain at least 60 acres of wetland habitat within the ACEC as waterfowl and shorebird habitats (see Maps D 1-2 in Appendix D).

General Wildlife

- Provide protection to wildlife habitats by promoting management actions which decrease adverse impacts at New River. Adverse impacts may be caused by altering solitude, increasing human visibility and sounds, or constructing facilities which are not designed with wildlife needs in mind. Habitats for all birds, reptiles, amphibians, mammals (large and small), and invertebrates will be considered.

Special Status Wildlife

- All or any USFWS recovery plan recommendations may supersede the New River Management Plan actions if deemed necessary to protect one or more threatened or endangered species.

Aleutian Canada Goose

- Implement the Aleutian Canada Goose Recovery Plan (September 8, 1982).
- Through cooperative agreements between BLM and adjacent private landowners, encourage improvement of foraging and resting areas on adjacent private lands. This could include grazing agreements to maintain foraging pastures for the geese.
- Maintain or improve Aleutian goose habitat, including foraging and resting areas, on at least 150 acres of land within the ACEC (see Map D-3 in Appendix D).
- Protect habitat values and minimize harassment of geese by discouraging water related recreation (boating/canoes/kayaks) to known goose activity areas during migratory periods (March 15 - May 1 and October 15 - November 30).

The Aleutian Canada Goose relies on short grass/forb areas for feeding and is easily disturbed. They my take flight when a single plane flies overhead or a person silhouettes the horizon.

Bald Eagle

- Inventory and assess the value of existing perches and nesting sites. Where needed, improve bald eagle habitat (see Map D-4 in Appendix D), consistent with Recovery Plan objectives and Coos Bay Draft RMP objectives, by creating naturalistic nesting and perch sites from existing trees within a half-mile of water sources.
- If hunting is found to have a detrimental effect on the bald eagle, BLM will petition ODFW for additional hunting closures as suggested in the USFWS recovery plan.
- Protect nesting bald eagle populations by prohibiting human disturbances within a quarter-mile of active nesting areas between January 1 and August 31.
- Protect bald eagle wintering areas from disturbance from approximately November 15 to March 15 (Coos Bay Draft RMP, 1992). Disturbances that would be restricted include construction, habitat manipulation, picnicking and camping.
- Through cooperative agreement between the BLM, ODFW, and private landowners, encourage nearby private landowners to assist in improving bald eagle habitat by providing perching and nesting sites on their lands.
- Provide optimum natural foraging opportunities for bald eagles by supporting a healthy fishery, healthy waterfowl habitat, and opportunities for bald eagles to freely predate these species (including the natural levels of available carrion).

Brown Pelican

Determine the habitat use of the brown pelican while conducting other inventory and monitoring activities.



The Southern Oregon Coast is vitally important to the Aleutian Canada Goose. Biologists believe that Oregon is the first and last resting stop of the goose, during yearly migration to and from the Aleutian Islands. **Photo Credit: Roy Lowe, USFWS**

Peregrine Falcon

- Maintain or enhance peregrine falcon habitat consistent with the American Peregrine Falcon Recovery Plan (see Map D-4 in Appendix D).
- Determine falcon winter use areas through inventories of existing structures and seasonal use periods. Develop management strategies that will minimize disturbance (October 1 through March 31) of key areas and retain natural structures (trees) used by peregrine falcons.
- If hunting is found to have a detrimental effect on peregrines, BLM will implement the full recovery plan options and petition ODFW for a hunting closure of the entire ACEC.
- Manage and monitor natural peregrine falcon perch sites. Management may include, but not be limited to, creating/manipulating perches, enhancing waterfowl and shorebird habitat and ensuring access to this prey base by minimizing human disturbances in the area.

Many wildlife species living in the New River area are not special status species, but are important to the success and function of the New River ecosystem. The interaction of each species with other plants and animals is the basis of a stable ecological community. While this natural community function includes a human factor, excessive human presence can disrupt ecosystem processes.

minimizing human disturbance through restricted access in nesting and rearing habitats during the appropriate seasons (March 15 through September 15, per the Federal Register Notice, March 5, 1993 Listing).

- At Floras Lake, close the beach (wet and dry sand portion) to all recreational use during the nesting season at the main nesting areas. Accommodate human traffic through a north-south trail east of the foredune around the nesting area.
- At other nesting areas near Floras Lake, close the dry sand portion of the beach to recreational use during the nesting season, allowing human use on the wet sand beach.



Snowy Plover nests are susceptible to human destruction because of their natural camouflage. However, habitat destruction and predation have taken the heaviest toll on the species.

Snowy Plover

- Implement a recovery plan for the Western Snowy Plover when a plan is finalized by U.S. Fish and Wildlife Service.
- Manage Western Snowy Plover nesting and rearing habitat on the foredune, as shown on Map D-3 in Appendix D and on any newly acquired lands with suitable habitat. Accomplish this in part by

Harbor Seals

- Identify harbor seal habitat use of the New River estuary by monitoring for the seals when conducting other monitoring.

Red Legged Frog

- Determine the distribution and abundance of the red legged frog and habitat used by the frog through monitoring efforts conducted annually between February 15 and April 15.
- Determine the effect of the introduced bullfrog on red legged frog populations.

Sea Turtles

(loggerhead, green sea, leather back, and Pacific Ridley)

- Monitor beach areas for activity from these species.

Western Pond Turtle

- Determine distribution and relative abundance of Western Pond Turtle and monitor its status in the New River ACEC.
- Implement acceptable habitat improvements for this species, when possible, as opportunities become available.

Special Status Plant Species

Pink Sand Verbena

- Facilitate recovery of this species by determining its recovery needs, and if appropriate introduce and establish a population on the foredune where habitat is present, possibly by planting seedlings or seeds.

Silvery Phacelia

- Reestablish at least one population of this species in the Storm Ranch area in a one or two-acre area, contingent upon beachgrass removal. Also, maintain existing populations and habitat at existing levels.
- If an interagency conservation strategy is created for silvery phacelia, adopt its suggestions at New River.

Western Lily

- Initiate recovery efforts by establishing experimental populations in the Storm Ranch/Muddy Lake area.
- Implement the recovery plan for western lily when a plan is finalized by U.S. Fish and Wildlife Service.



Silvery Phacelia is a Federal Candidate Species for listing under the Endangered Species Act.

Land Actions

- Maintain habitat and enhance all recovery efforts through land tenure adjustments, including exchanges, acquisitions, and conservation easements.

Potential acquisition areas include only those lands and interests in lands that complement the existing public land base and public interest programs associated- with the New River ACEC.

- Any acquired lands in the New River watershed will be considered for designation as ACEC lands, Research Natural Areas (RNAs), or Botanical Special Interest Areas (BSIAs).
- 501 acres of existing New River BLM administered lands not already ACEC designated will be proposed for designation (map 1).
- Designate the following public lands as part of the New River ACEC:
 - Storm Ranch acquisition (240.15 acres)
 - Hammond property acquisition (105.45 acres)
 - Toft property acquisition (14.2 acres)
 - Public lands in T. 30 S., R. 15 W., WM, Sections 32 and 33 (29.58 acres)
 - Floras Lake acquisition (111.48 acres)
- Establish the New River ACEC property lines through a legal survey to determine the true lines between private and public land. Once ownership

lines are established, place boundary monuments to identify public lands.

Fire Management

- Natural caused fires will be allowed to burn on and onto New River ACEC lands except if threatening life, private high value areas or Storm Ranch developments.
- Recognize the role of fire in the natural environment by suppressing only those fires that do not meet ACEC goals and objectives.
- Reduce potential adverse impacts to ACEC resources, public/private facilities and developments, and users by annually identifying specific fire tactics and strategies for the ACEC. Specific actions may include managing and manipulating brush and other fuels within the ACEC adjacent to these facilities and developments; selectively thinning fuels surrounding facilities to reduce fire hazard; and constructing a firebreak to reduce flammability, intensity, and rate of spread near or adjacent to private land.
- To meet fire suppression needs, place all existing ACEC land and future acquisitions east of New River under the State Protection Contract.
- Reduce the potential for accidental human-caused fires by prohibiting open campfires and placing interpretive materials (signs/brochures) that discourage improper discard of burning materials (i.e., cigarettes, matches, etc.).

Livestock Grazing

- Initiate grazing plans for the allotments which will improve riparian vegetation and bank stabilization, and thereby indirectly improve fisheries habitat and water quality. The grazing plans will identify and implement practices such as:
 - Basic utilization standards.
 - Desired future vegetation.
 - Improved livestock distribution through development of water sources and fencing.
 - Seasonality of grazing to protect bank sloughing or other resource damage.
 - Compliance monitoring.
 - Modification of livestock numbers (AUMs), depending upon monitoring results,

See the Monitoring and Research section for other actions related to these practices.

Fisheries and Water Resources

Objective 2 - Establish suitable water flow and quality, and maintain riparian/wetland areas in a condition supportive of a healthy aquatic ecosystem.

Reasons for Action

- Fish populations in New River have been declining and Pacific coast coho salmon and steelhead trout have been petitioned for listing under the Endangered species Act.

One of the fastest shrinking categories of [land] is coastlines. . . No single kind of [area] is more intimately interwoven with history, and none nearer the point of complete disappearance. ”
Aldo Leopold, A Sand County Almanac 1948.

- Fall chinook salmon, and coastal (sea-run) cutthroat trout are all species of concern in the New River- Floras Creek basin (ODFW 1992, Nehlsen et. al. 1991) (see fisheries summary in Appendix F).

- The BLM has a responsibility to conserve special status species and the ecosystems upon which they depend.
- As part of the Riparian-Wetland Initiative for the 1990s, the BLM is charged with restoring and maintaining riparian-wetland areas so that 75 percent or more is in proper functioning condition by 1997.
- Many organisms in the New River area depend on a clean, year-round water source. Maintenance of good perennial water quality and quantity is essential to ensure healthy and productive plant and animal communities,
- Due to agricultural purposes, wetlands throughout the watershed have, in the past, been converted to cranberry production and pastures for grazing. Cooperative management could improve many of the

wetlands' functions and processes and thereby ensure a perennial flow in New River.

- Increased local development and water use on nearby lands will affect water flow quantity and quality, and the health and diversity of New River's aquatic ecosystem.
- Natural breaching is an important component of New River. Timing and conditions surrounding natural breaching, and even the location of the breach all play a role in the river's health. Specialists do not believe that mechanical river breaching has a similarly healthy effect on the ecosystem.

Planned Actions for Objective 2

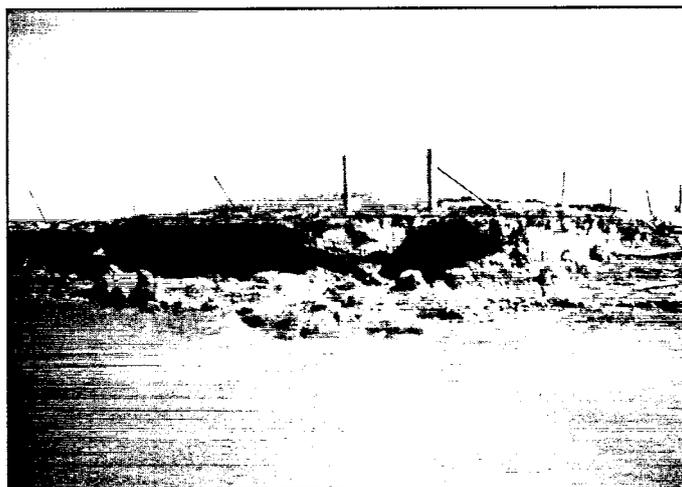
Fisheries

- Assist in revising the ODFW's basin-wide Fish Management Plan to restore the Floras Creek-New River fisheries (which includes coho and chinook salmon, steelhead and cutthroat trout and their habitats). Other cooperators in the restoration effort may include private landowners and interested organizations and individuals (may be part of the local watershed council - discussed below under water quality).
- Educate the public about angling restrictions and work with the State Police and ODFW to enforce salmon angling closures and catch limits along New River, especially at Storm Ranch.



Land conversion to cranberry fields is occurring at a rapid pace in Coos and Curry counties.

- Develop objectives for the restoration and management of fisheries and riparian/wetland resources.



Erosion on unvegetated bank of New River.

Watershed/Riparian

Water Quality

- Manage the area to protect natural riparian vegetation from human disturbance/destruction by restricting vehicle access at key points, minimizing foot traffic, and controlling livestock activity.
- Enhance the water quality and overall health of the aquatic ecosystem of New River and associated drainages through:

Encouraging the formation of a local watershed council for all or portions of Floras Creek, New Lake, Croft Lake and Fourmile Creek.

The Council would include representatives of local government, non-government organizations, industry, private citizens, and state and federal agencies.

- Establish a coordinated water quality monitoring program for New River and associated drainages in cooperation with state and county agencies and adjacent private landowners. This program would be part of a proactive management effort to: 1) detect overall changes in water quality; 2) identify specific contaminants; 3) develop recommendations to deal with existing problems; and 4) identify *preventive*

conservation measures to improve water quality of New River.

Water Flow Quantity

- Strive to maintain perennial (year-round) flow at New River through the implementation of water conservation management strategies consistent with other resource goals and objectives. Employ the local watershed council to assist in program design.

Focus on prevention of channel drying during summer along all portions of the river. Ideas for increased water flows include:

- a) Stabilize movement of the New River channel by maintaining vegetation along streambanks to hold soil in place and reduce bank erosion. Riparian vegetation slows water velocities and aids the recharge of adjacent floodplains during high flows by ponding and subsoil recharge. Although some of this water is lost to evaporation and transpiration, more water is detained after flood events, and is discharged as spring-summer streamflow.
- b) Allow uninterrupted natural vegetative succession along the floodplain and margins of New River.
- c) If desired condition of woody vegetation is not being met, consider planting native woody vegetation such as willows in bare areas, or where early seral vegetation is found to improve the functioning condition of New River.
- d) Look for ways to develop reservoir storage in the watersheds that could help augment late season low flow. (Coos County Water Supply Plan 1993).



Grasses and aquatic plants can provide a dense vegetative mat and, except for large floods, help keep channels in the same place.

Natural and Artificial Breaching

Maintain water recharge by not interfering with the natural breaching processes of New River. BLM

would not be opposed to breaching in instances where floodwater threaten human life or could destroy valuable improvements, or when approved by special permit from the State of Oregon, (See research section.)

Education/ Interpretation

- Promote awareness and understanding of New River's watershed, river, wildlife, habitat and scenic values by providing educational materials and/or field trips pertaining to the New River system.

Cultural and Archaeological Resources

Objective 3 - Protect and interpret important cultural and archaeological sites at New River.

Reasons for Actions

- The Coquille Indian Tribe and Confederated Tribes of Siletz Indians, both federally-recognized tribes, have expressed concern about protection of cultural sites along the southern Oregon coast.
- By law, BLM is required to protect significant cultural and archaeological sites. These laws include the Archaeological Resources Protection Act, American Indian Religious Freedoms Act, National Historic Preservation Act, and the Native American Graves and Repatriations Act.

Planned Actions for Objective 3

General

- Protect cultural and archaeological resources at New River by developing a Cultural Resource Management Plan for the New River ACEC to: evaluate the present condition and importance of each site, establish a method of monitoring the future condition of these sites, identify interpretive opportunities, and identify pertinent archaeological research questions and sites that can help answer those questions. As part of the Cultural Management Plan:

The rich history and prehistory of New River is ideal for interpretation. Cultural/archaeological information can be intertwined with the geological and natural history to provide the visitor with a better appreciation of the area.

Identify areas that have not been systematically inventoried and conduct field investigations.

Establish a baseline map of distribution of cultural resources to assist monitoring of conditions.

Develop a regional research design to identify important questions concerning prehistoric occupation of New River.

Define future BLM and tribal roles and relationships at New River by developing Memoranda of Understanding with the Coquille Indian Tribe and the Confederated Tribes of Siletz Indians of Oregon.

- Avoid construction of recreational facilities in prehistoric site locations. Mitigate any unavoidable impacts through coordination with the State Historic Preservation Officer.
- Document the history and prehistory of the New River area, (including the activities, fish runs, and other uses in the New River area) through the use of historic literature searches, oral interviews with

longtime residents, official documents, local libraries and courthouses, and possibly through site excavations.

- Consult with the Oregon State Historic Preservation Office and the Keeper of the National Register of Historic Places to determine eligibility of the Westmoor/Leep cranberry bogs for listing as a historic site.

Native American Concerns

- Consult with interested Indian tribes before initiating any interpretation of Native American uses or land-disturbing activities which may damage cultural resources in the New River ACEC.

Site Excavation

- Contribute to site evaluation, interpretation, and cultural preservation by determining site excavation needs. Evaluation - level excavation is needed to determine the significance and condition of sites and eligibility for the National Register of Historic Places. Mitigation - level excavation may be needed if increased visitation has a potential impact on sites.
- Coordinate cultural resources program, including any planned excavation, with interested Indian tribes. Provide opportunities for tribal members to participate in excavations.

Site Interpretation

- Ensure that all interpretation is sensitive to Native American concerns by collaborating with interested Indian tribes and utilizing the Adventures in the Past and Heritage Education initiatives as the basis for interpretive efforts.

Visitor Use Management

Recreation

Objective 4 - Accommodate low-impact recreational use at New River while providing a variety of experience opportunities and durations to help meet existing and anticipated demands.

Reasons for Action



- New River is designated as an Area of Critical Environmental Concern and visitor use should be managed to maintain the area's integrity for the fish, wildlife, and plants that rely on the area for survival.
- New River's natural and cultural resources and processes are sensitive to human presence and use. This sensitivity calls for a balance between public recreational and educational use of New River and the needs of its resources for protection.
- Excessive or inappropriate recreational use and development could lead to loss of some of the very resources that make New River valuable and attractive to humans in the first place.
- Hunting on the ELM-administered lands north of Croft Lake is a significant safety concern because the

lands are very brushy and the area is used for many recreational pursuits.

Planned Actions for Objective 4

General

- Because recreational demand occurs at New River's easiest access points, recreational management will focus on the Storm Ranch area (accessed from Croft Road) and lands adjacent to Floras Lake.
- Direct recreational activities onto established trails, roads, fishing areas, and within the primary use area at the Storm Ranch entrance accessible from Croft Lake Road (Map 10.)

Establish and use "Limits of Acceptable Change" (LAC - see page 3 - 16) to help avoid unacceptable vegetative or soil resource impacts that may be associated with such use.

Types of Recreation Use

- Accommodate low-impact wildlife observation, nature study, day hiking, walking, jogging, fishing and photography. Limited amounts of low impact picnicking, visiting prehistoric sites, canoeing, bicycling and horseback riding in the area will be allowed.
- Allow camping only for educational purposes, university research, or work related to site maintenance. Camping will require a special permit with a two-week advance notice requested. Camp



stoves will be allowed, but no open fires, except by special arrangement.

- For safety reasons, close the area north of Croft Lake outlet and the Floras Lake acquisition to hunting (see Map 5).

- With the exception of hunting south of Croft Lake, prohibit uses that are excessively loud, disruptive to wildlife, interfere with the life cycle of any plant or animal (except those under harvest permit), pollute or damage the ACEC, or involve excessive soil disturbance.

Permission is needed from private landowners to hunt on their property. This permission is not given or implied by cooperative agreements between BLM and ranchers or other adjacent landowners.

- Close the area to off-highway vehicle use and target shooting.

- At Floras Lake, maintain year around nonmotorized access across the bridge at the lake outlet as long as recreational use is compatible with resource objectives.

- At Floras Lake, encourage the public to voluntarily comply with trail rules and to stay off the beach during snowy plover breeding season (March through September). This includes: posting informational signs, physically delineating sensitive nesting areas, and providing an established trail for foot traffic north and south. If this does not work, the BLM may be required to provide stricter enforcement or close the area under the Endangered Species Act.

Level of Recreation Use

- Use the Limits of Acceptable Change (LAC) criteria to guide recreational use on all trails, visitor use designated areas, at the fishing area, and at important locations off trail.

The Limits of Acceptable Change (LAC) planning system is a framework for establishing acceptable and appropriate resource conditions. It is a proactive process, enabling specialists to logically define desired environmental conditions and to undertake actions to maintain or achieve these conditions. Management decisions by federal agencies are subject to lengthy reviews, both public and internal. When degradation of resources occurred in the past, no logical, traceable and expedient process existed to allow immediate action. LAC addresses this by establishing a plan before conditions worsen, rather than after.

The LAC process places emphasis on desired conditions rather than how much use an area can tolerate. This process includes choosing indicators of resource conditions, inventory and monitoring, identifying standards, identifying actions and alternatives, evaluation and implementation of new actions. Under the LAC system, management can pinpoint land uses adversely affecting an area, then make timely, informed decisions and take action to quickly remedy the situation.

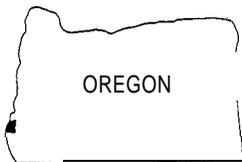
MAP 5
HUNTING AREA
 NEW RIVER ACEC

BUREAU OF LAND MANAGEMENT U.S. DEPARTMENT OF THE INTERIOR

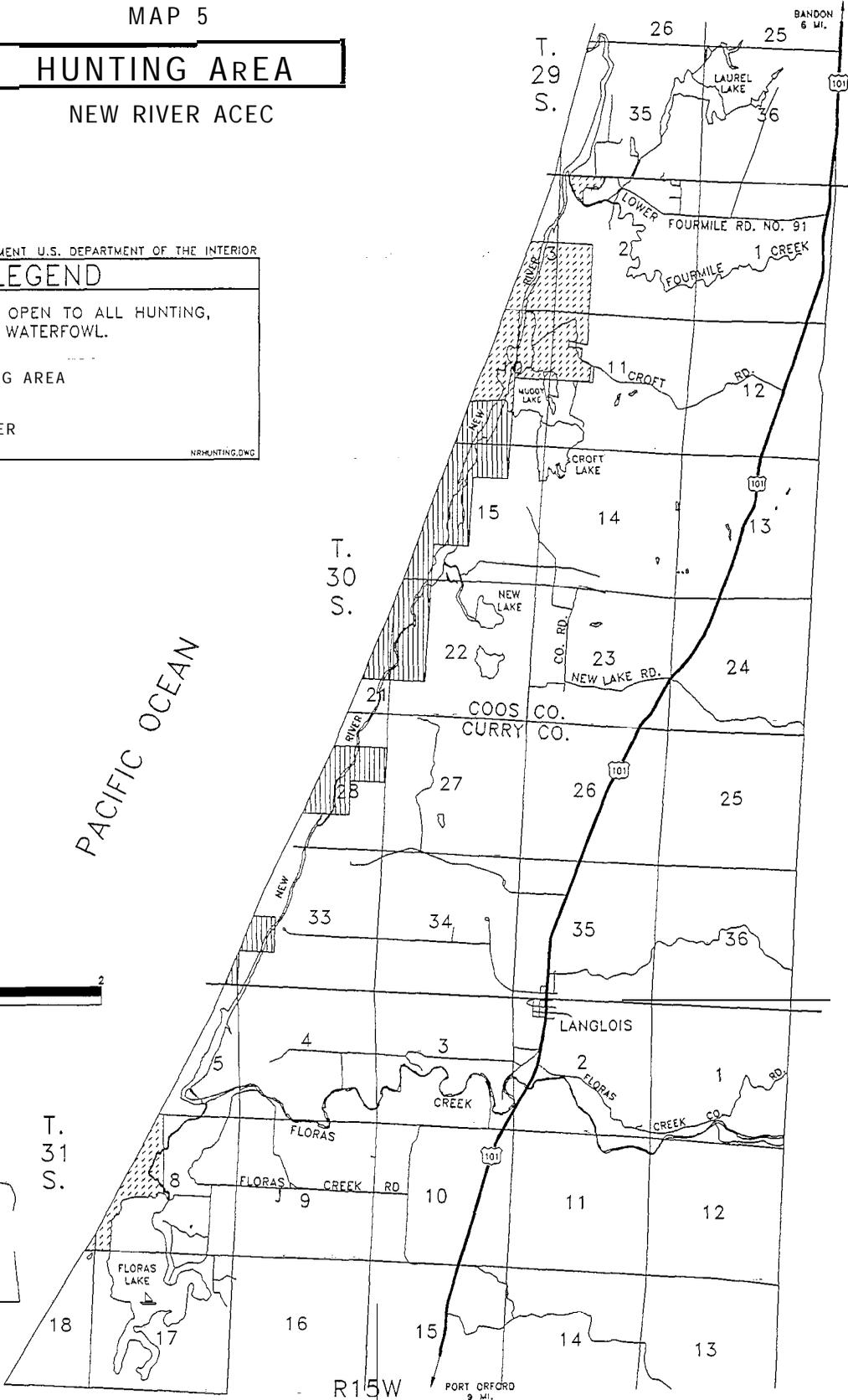
LEGEND

-  TO REMAIN OPEN TO ALL HUNTING, INCLUDING WATERFOWL.
-  NO HUNTING AREA
-  OPEN WATER

NRHUNTING.DWG



F PROJECT LOCATION



Outdoor Education/ Interpretation

Objective 5 - Promote an awareness and appreciation for New River's many resource values, especially those significant to its ACEC designation; also foster a "Leave No Trace" land use ethic and similar attitudes in visitors at New River.

Reasons for Action

- Proactive management will encourage more responsible use of the New River area, thereby reducing resource degradation and vandalism.
- Informed visitors provide greater public and political support.

Planned Actions for Objective 5

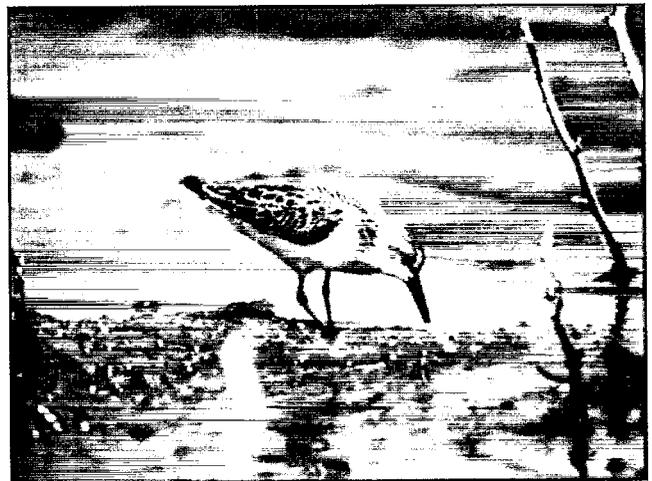
Level and Type of Interpretive Programs

- Develop an Interpretive Prospectus for New River to guide the interpretive program. The plan will: identify interpretive goals, analyze available use information and visitor demographics, inventory interpretive opportunities, identify media prescriptions and themes, present financial summaries for each prescription, and describe appropriate evaluation methods.



The intent is to provide a spectrum of interpretive activities for New River visitors. We envision an interpretive program at New River which encourages interaction with the landscape without detriment; where learning is inspired and impacts minimized; and where visitors leave with greater insights and a interest to know more.

We see those interpretive opportunities as ranging from simple interpretive signs to environmental education workshops and programs. They might also include guided walks and evening presentations. Again, specific interpretive facilities and opportunities will emerge from the interpretive prospectus.



Western Sandpiper. *Photo Credit: O.D. Swisher*

Interpretive Themes

All of the interpretation will be under three large umbrella themes. They encompass the values we see in the New River ecosystem. They are:



Theme #1. A landscape like New River is an intricate web of related parts. If one part is altered, the system is changed. In New River’s history, there was a changing of parts. The result: humans and nature together have molded the dynamic New River ecosystem you see here today.

Topics: human history • natural history • system dynamics • human-nature relationships • ecosystem concept



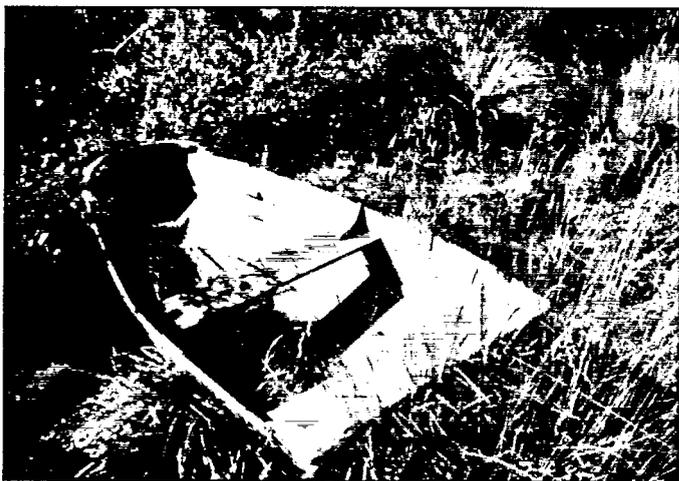
Theme #2. Biodiversity is like putting money in the bank — it secures a healthy future for all of us. Biodiversity still flourishes at New River. Animals and plants that have disappeared elsewhere may still be found in the bogs, forests, sandy beaches and wetlands that surround the river.

Topics: biodiversity • T&E species • human impacts • ecosystem concept • habitats • habitat relationships



Theme #3. Thoughtful land stewardship by all people is critical in maintaining the health and integrity of places like New River.

Topics: appropriate behavior • watchable wildlife how-to’s • leave no trace ethic • management support



Abandoned boat at the old bog.

Level and Type of Educational Programming and Research

■ The Interpretive Prospectus will include a feasibility study to determine educational potential at New River and would address the following factors:

- Education potential/opportunities and need*.
- Level of education programs that are consistent with ACEC goals.
- Supporting structures such as a combined research/learning building “if needed”.
- Orientation of education (specific areas of focus).

*The study should survey educators to determine what the environmental education need is and whether New River can fill such a need. Survey will identify: user groups, program needs, average age of visitors, size of groups, times of use, and duration/type of stay. Implement results of the study as appropriate and as budget allows.

Site Administration and Development

Visitor Facilities

Objective 6 - Provide adequate use supervision, visitor facilities, services, signing, and programs to protect resources and support planned visitor use activities and use levels.

Reasons for Action

- Visitation to the New River area is expected to grow as more people become aware of the area, and as population and tourism along the southern Oregon coast increase.
- Signing and other management tools (fences, roads, trails) which direct recreational use, ultimately reduce resource damage and can prevent other damage, such as erosion and trail rutting from beginning.
- Some structures at the Storm Ranch are in poor condition and present safety hazards to visitors. Others are too costly to restore/maintain to a condition compatible with the management plan objectives.

- Only limited harvesting of forest products occurred on the Storm Ranch during private ownership; research is needed to determine appropriate use levels to maintain the species and aesthetic qualities.
- A Law Enforcement Agreement (LEA) agreement with Coos County is already in place, but there is a need to enter into an LEA with the Curry County Sheriff Department.
- A cohesive network of understanding between agencies is needed which will enhance law enforcement support for the area.

Planned Actions for Objective 6

Existing Structures

- Remove the ranch house, stable, and arena.
- Replicate ranch house and use as administrative site.
- Maintain the vault toilet at the fishing area.
- Remove or modify some existing fences according to BLM standard manual design for wildlife safety; keep others which are valuable for visitor use management.



The Ranch House (left) barn (middle) and arena (right) will be removed. A replica of the ranch house will be built in its present site as an office and administrative site.

Retain the kiosk at the Storm Ranch entrance to display interpretive signs.

Planned New Structures/Facilities

- Depending on feasibility study, build a research/learning building at the present site of the stable. Building could contain a laboratory and living space for several researchers, two classrooms and a public contact room (seasonal).
- Add several picnic tables to Storm Ranch: between three and seven at areas around the parking lot and entrance (including one or more that are wheelchair accessible), and retain the one at the fishing area.
- Provide resting/viewing stops for visitors by placing benches along the East Muddy Lake Trail and along the North Trail, possibly using logs or other natural material to construct the benches.



Barriers of some type will be added to prevent anglers from driving to water's edge.

- Enhance wildlife viewing opportunities by building a small wildlife viewing structure at the north end of Muddy Lake. The structure should be: built with minimum damage to surrounding trees and roots, so that the tree cover acts as a natural blind; unobtrusive (e.g., no lights); wheelchair accessible; and designed using natural colors. The small structure will accommodate three to five people at one time.

- Because the current well is shallow and taps surface water, it is subject to dry-up in October and November. Drill a new well, south of the existing one which will provide good quality and quantity of drinking water.

- Develop a public drinking water supply within the developed area at Storm Ranch. Install a public drinking fountain near the ranch entrance.

The foremost theme of the management plan is to conserve at the New River ACEC for generations to come.

- Construct a secure storage building across from the kiosk (see Map 6).
- Develop a septic system and add two public rest rooms near the Storm Ranch entrance.
- Establish a gravel parking area across from the present Ranch House site. A larger parking area could be required if the feasibility study determines the site is acceptable for educational purposes.
- Consider creating a native plant garden in the entrance area, especially if no research/learning facility is built.
- Maintain graveled parking lots at the fishing area.
- Install barriers at the boat launch to prevent people from driving vehicles along the water's edge to fish.
- Maintain access points to include grounds maintenance, repair, signage, and possibly some upgrading on selected sections of road and trail. Priority would be given to safety and habitat maintenance.
- Because the 14-acre parcel on Lower Fourmile Road provides a takeout point for canoes when River Road is closed at the Storm Ranch, gravel the road and a small parking lot, as needed, if resource damage and rutting become a problem. Line the road and parking area with driftwood to delineate them.

MAP 6

ENTRANCE AREA

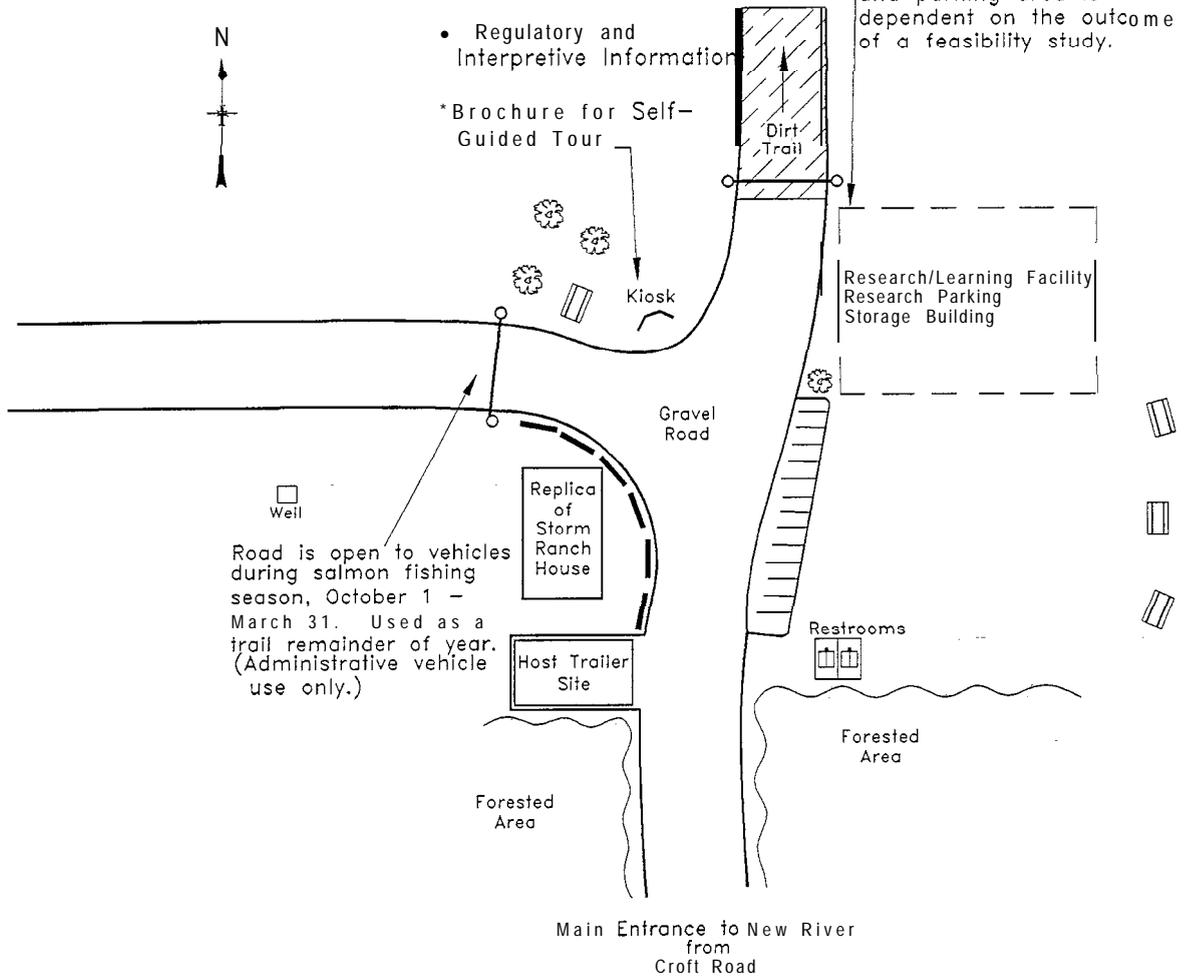
NEW RIVER ACEC



• Regulatory and Interpretive Information

*Brochure for Self-Guided Tour

Development of a Research/Learning Facility and parking area is dependent on the outcome of a feasibility study.



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LEGEND	
Picnic Table	
Tree	
Gate	
fence	

Note: Not Drawn to Scale

NR2P6.DWG

Trail System

- Designate approximately 3.0 miles of maintained trails, including .24 of a mile of new connecting trail. See Table 4 (the trail matrix), and Map 7, for a description of each trail and for their locations.

Assign trails a Use Designation which defines the allowable types of travel (horse, foot, bicycle). Restrictions are based on factors such as: parking access, whether it connects or loops, safety factors and fragility of the environment.

Accessibility Designations will advise persons with disabilities of the conditions they will find along access routes. Easy Access represents a use area meeting the requirements for access defined in the “Uniform Federal Accessibility Standards”. Moderate, Difficult and Most Difficult designations relate to a number of design factors defined in the “Difficult Recreation” which is still under development.

- Maintain minimum trail widths according to listed descriptions in table 4. Height of trail brushing will be consistent with designated uses and maximum widths will vary on each trail.

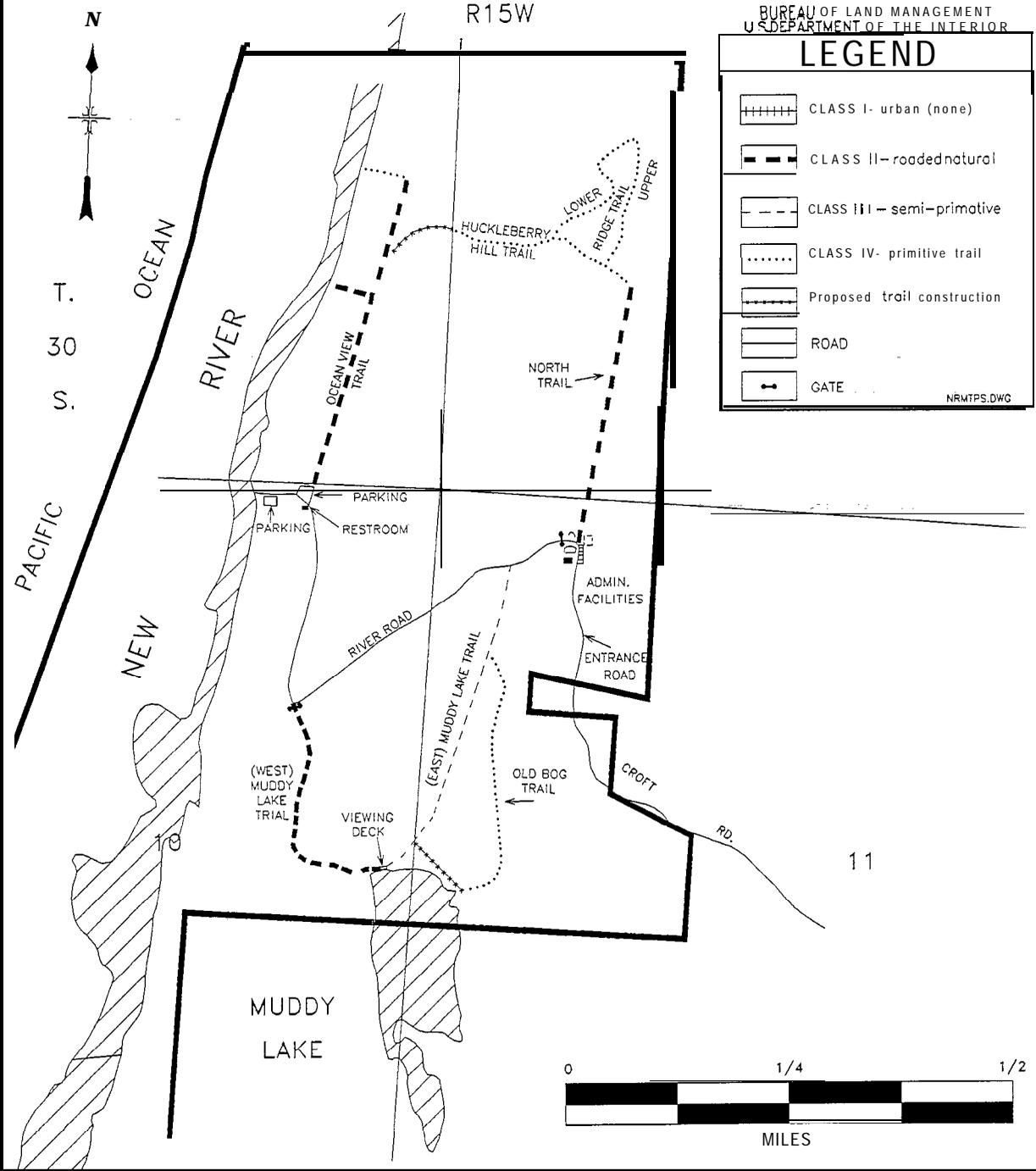
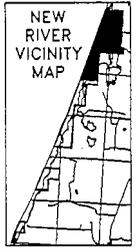
- If damage, such as erosion or rutting, begins from heavy foot or horse traffic, BLM may need to rotate and rest the trail, protect the trail with boardwalks, or surface with gravel or a bark covering. BLM may also restrict use of the area by limiting the number of vehicles/visitors or redesignating trail use if chronic problems occur or if the user mix results in conflicts.

The East Muddy Lake Trail divides in an open meadow and creates the Old BOP Trail. Hiking along the Old Bog Trail provides a view of the coast range foothills. It also gives a closer look at the eastern edge of Muddy Lake and at the Westmoor/Leep bogs (est. 1915) which are converting to natural wetlands.



An eagle scout project now makes the East Muddy Lake Trail wheelchair accessible.

MAP 7
TRAIL SYSTEM
 NEW RIVER ACEC



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LEGEND

	CLASS I - urban (none)
	CLASS II - roaded natural
	CLASS III - semi-primitive
	CLASS IV - primitive trail
	Proposed trail construction
	ROAD
	GATE

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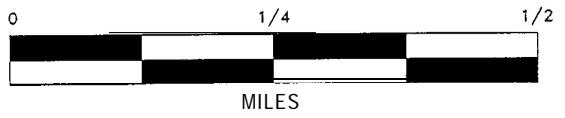


Table 4 - Management Plan Trail System

Table 4. MANAGEMENT PLAN TRAIL SYSTEM

TRAIL NAME	DESCRIPTION	DESIGNATION	LENGTH
Ocean View Trail	Begins at upper fishing area parking lot and runs north through the forest for .45 mile. The terrain is relatively flat and stable, with a maximum grade of 5% for 59 feet. Trail surface is soil and gravel having a natural appearance, but providing a firm, slip resistant surface with less than 2% side slope. Minimum trail width is 34 inches, max. trail width is 42 inches. The trail has 2 routes to view ocean and river; the southern most will be wheelchair accessible.	Foot, horse. Accessibility designation: Moderate to Difficult	.45/mile
Huckleberry Hill Trail	Trail connects the Ocean View and North trails and runs through meadow, forest and shrub communities. Trail surface is loose sand with a minimum width of 30 inches (max. width 34 inches). Greatest grade is 12% for 107 feet. Trail rolls over many small sand dunes near the Ocean View Trail.	Foot, horse. Accessibility designation: Most Difficult	.32/mile
Upper & Lower Ridge Trails	Access along these trails is difficult as they run along the tops of sand dunes in a successional shrub-forest community. Trail surface is unstable, loose, shifting sand. Grade exceeds 16% for 105 feet and 15% for 43 feet. Trail is often less than 20 inches wide (max. 34 inches wide) with no edge definition.	Foot. Accessibility designation: Most Difficult	.4/mile
North Trail	Trail begins as an old road from ranch house area and provides access to the ridge trails and serves as a connector trail to Huckleberry Hill at junction of Lower Ridge Trail. Trail surface varies from compacted soil and gravel to loose sand. Minimum trail width is 34 inches (max. width is 62 inches) and maximum grade is 15% for 56 feet with the remainder of the trail nearly flat. Edge is well defined.	Foot, horse, Accessibility designation: Moderate	.2/mile

Table 4. (Continued) MANAGEMENT PLAN TRAIL SYSTEM

TRAIL NAME	DESCRIPTION	DESIGNATION	LENGTH
East Muddy Lake Trail	Trail begins off New River Road, crosses footbridge then meadow before entering forest and shrub community on way to Muddy Lake. Surface is firm, with grass, gravel or dirt substrate. Some parts of trail have 10-inch minimum tracks with a small grassy mound between. Width of trail generally exceeds 8 feet with a maximum grade of 13% for 94 feet. Edge of trail is not well marked.	Foot, horse, bicycle. Accessibility Designation: Difficult	.4/mile
West Muddy Lake Trail	Trail continues from Muddy Lake to River Road and is actually old road to Muddy Lake which is gated at River Road. Maximum grade is 6% for 117 feet, but most of trail is flat. Width is greater than 5 feet (and will be maintained at 5 feet) with a well marked edge and substrate is hard-packed dirt and gravel.	Foot, horse, bicycle. Accessibility Designation: Moderate	.3/mile
Old Bog Trail	Trail begins in meadow from East Muddy Lake Trail and rises over sand dunes to provide views of Coast Range foothills. Runs along bog before reaching east side of Muddy Lake then connects back onto East Muddy Lake Trail for loop. Trail width 36 inches minimum (max. 44 inches) in deep or loose sand with steep grades - of 27% for 21 feet and 25% for 68 feet. Edge is not marked well and trail has some steep edges.	Foot, horse. Accessibility Designation: Most Difficult	.4/mile

Accessibility designations are from the “Access Means Freedom” initiative and are designed to inform individuals with disabilities the difficulty level of trails.

Levels of Accessibility Accommodation

Easy Access	Urban/Rural	None
Moderate Access	Roaded Natural	W. Muddy Lk, Ocean-View, North Trails
Difficult Access	Semi-primitive	E. Muddy Lake Trail
Most Difficult Access	Primitive	Old Bog, Huckleberry Hill, Ridge Trails

Signs

Directional and Regulatory Signs

- Informational signs on Highway 101 will be the binocular logo (Watchable Wildlife) and a small sign “New River” in each direction.
- Announce entry to the BLM-administered New River area by designing and constructing an entrance sign where access to Storm Ranch occurs at Croft Road.



Volunteers Bart Gatewood (left) and son Danny built the New River entrance Kiosk in 1993.

- Provide interpretation, informational and regulatory signs regarding the protection needs of special status species.
- Post and update regulatory, informational and safety signs.
- Encourage on-trail exploration while not detracting from the area’s naturalness by placing small, unobtrusive directional signs in appropriate areas along trails.
- Install a reader board at the lower parking lot of the fishing area to post fishing information and regulations.
- Encourage compliance with off-highway vehicle closure by posting signs on exterior boundaries of the ACEC noting that the area is closed to OHVs

except on designated roads or as needed for administrative purposes.

- Reduce the potential from human-caused fires by signing areas of the Storm Ranch and access points into the ACEC.
- Provide interpretive signing about the ecological effects of natural foredune breaching.

Visitor Use Services and Supervision

Management Personnel and Site Host

- Make available a site host to provide information to the public and to encourage compliance with regulations.
- Refer comments and concerns to a BLM staff person who manages the area.
- Provide a part-time maintenance person to repair facility problems and assist the site host.
- Hire a seasonal interpreter to lead guided walks and assist with the education program.
- Include seasonal wildlife and/or fisheries biologists who have duties at New River.

User Fees and Permits

- An entrance fee and other special facility user fees may be established in the future to offset operational and maintenance costs for the ACEC.
- For the purpose of resource protection, recreational use permits singly, or in conjunction with entrance or user fees, could be established to help regulate visitor numbers.

Publicity

- Due to unique resource values, avoid publicizing the site in maps, brochures and articles to prevent overuse.

General Information/Regulations

- 1) Motorized Vehicles: Motorized vehicles are limited to designated roads. River Road will be open for salmon fishing season, usually between September 1 to March 31. If salmon season is closed or shortened, River Road may be closed to vehicular traffic for that year.
- 2) Pet Leashing: To minimize harassment of wildlife in the area all pets must be leashed. Exceptions are trained hunting dogs used for waterfowl hunting in designated areas during the proper season.
- 3) Camping: Camping will be by permit only and allowed only for educational, research or work purposes. Two-week advance notice required.
- 4) Campfires: Prohibit open campfires except by special permit from the Resource Area office. Temporary containerized warming fires at the fishing area and camping stoves/grills are allowed without prior approval.
- 5) Hours of operation: Public lands on New River will be open 7 days per week. The Storm Ranch entrance gate will open around sunrise during fishing and waterfowl hunting season, other times of the year, the gate will open at 8:00 am. It will be closed at sunset to prevent vandalism. Arrangements can be made to open the gate earlier for unique situations such as bird counts, etc.
- 6) Emergency Closures: The area may also be closed due to emergencies such as fire closures, hazardous material spills, etc.
- 7) Special forest products: Removal or damage of any vegetative or forest product is prohibited. Forest products include but are not limited to: Christmas trees, mushrooms, boughs, ferns, salal, huckleberry, firewood, grass, cattail, post and poles, driftwood, wildflowers and seed.
- 8) Waterfowl Hunting: The BLM supports access for waterfowl hunting south of Croft Lake outlet pursuant to all applicable state and federal regulations.
- 9) Fishing: Fishing is acceptable (according to all applicable state and federal regulations) on New River and Muddy Lake. However, the land surrounding the southern 2/3 of Muddy Lake is privately owned.
- 10) General Hunting: For public safety reasons, the BLM will consult with the ODFW to obtain a general hunting closure (including bow hunting) on BLM-administered lands north of the Croft Lake outlet and on the Floras Lake acquisition.
- 11) Trapping: Trapping on the ACEC will be allowed only for education and scientific research.
- 12) Weapons: For public health, safety and comfort, the discharging or use of handguns and/or rifles is prohibited on the ACEC. Shotgun use for legal waterfowl hunting is permitted south of the Croft Lake outlet.
- 13) Collection of plants/animals: Special permits may be authorized for educational or research purposes.
- 14) Special Use Permits: Permits will be required for camping, special plant harvest, or animal trapping for educational or research purposes.
- 15) Special events: Large group activities which in themselves do not focus on New River or its unique habitats will not be permitted due to concern for the resources. Acceptable special events include coordination meetings with other agencies for the express purpose of New River familiarization, or educational groups and natural resource groups with a BLM or docent leader.
- 16) Boating: Oregon State Marine Board regulations state that motorized boats on Floras Creek-New River can use only an electric motor. Gasoline powered boats and recreational vehicles such as jet skis are prohibited.
- 17) Windsurfing and sailing: Recommend to the Oregon State Marine Board that windsurfing and sailing be prohibited on New River.
- 18) Minerals: All ACEC lands are closed to mineral exploration.
- 19) Horses: Horses are permitted on designated trails.
- 20) Bicycles: Most trails are very sandy and bicycle use will be prohibited on these. Bicycles may continue to use the main road to the fishing area (even when gated at kiosk), and the Muddy Lake and Ocean View Trails.



This young brush rabbit camouflages itself after being flushed by unleashed dogs at New River.

Enforcement

- Law enforcement will be provided by a BLM Ranger, as well as county sheriff departments according to joint agreements.
- Additional law enforcement will be provided by the Oregon State Police.
- Establish a contact list to be used by the site host and enforcement personnel in case of emergencies or conflict situations.
- Improve enforcement efforts at New River through annual coordination meetings with other agencies (ODFW, State Parks, COE, SCS, forest deputies, and supervisors) and interested groups.

Hazardous Materials Management (HMM)

- District Hazardous Materials Contingency Plan applies to any spill or dumping of hazardous materials requiring emergency response activities and removal.
- Federal Pollution Prevention Act of 1990, Executive Order 128.56, and Secretarial Order 3158 govern procedures for spill prevention, waste management and minimization. Activities on the ACEC should reflect the use of low environmental impact chemicals and substances, with minimal retention of any necessary hazardous materials on site. Specific site activity plans shall be reviewed for potential

HMM impacts, Employee awareness training should be kept current.

- Public Education and awareness of HMM should be integrated into outreach programs.

Coordination/Cooperation

- Promote ongoing coordination efforts by encouraging establishment of a “Friends of New River” volunteer citizen group.
- Ensure communication by maintaining an updated mailing list of adjacent landowners and people interested in New River management.
- Consult with ODFW pertaining to hunting/trapping closures.
- Continue consultation with USFWS regarding Threatened and Endangered species.
- The BLM will continue to coordinate with the following agencies, groups, and individuals:
 - *Oregon Department of Fish and Wildlife (ODFW)*. Regulates animal populations.
 - *U. S. Fish and Wildlife Service (USFWS)*. Mandatory consultation on Endangered Species Act compliance.
 - *Oregon Coast Wetlands Joint Venture*. Lobbying and fund-raising for federal wetland acquisition.
 - *Point Reyes Bird Observatory*. Monitoring and evaluation of shorebird populations in western U.S.
 - *Oregon Division of State Lands (ODSL)*. “Owns” the state seabed (up to three miles offshore) and regulates fill and removal up to the ordinary high water line.
 - *Oregon State Parks and Recreation Department (OPRD)*. Co-manages the “wet sands” area up to ordinary high water line with DSL, and manages the “dry sands” up to the beach zone line.
 - *Department of Land Conservation and Development (LCD)*. Coordinates coastal program and monitors for federal consistency in plans.

- *National Marine Fisheries Service (NMFS)*. In charge of marine mammal protection and ocean fisheries management.
- *Oregon Department of Environmental Quality (DEQ)*. Monitors water quality and pollution control.
- *U.S. Army Corps of Engineers (COE)*. Regulates fill and sand removal (from the foredune).
- *Coos and Curry Sheriff Departments*. Provide law enforcement support.
- *Oregon State Police*. Provides enforcement of fish and wildlife laws and all other laws for the State of Oregon.
- *Coos and Curry County Commissioners*. Provide the connection and support between county programs and BLM programs.
- *Oregon Department of Transportation (ODOT)*. Responsible for highway safety.
- *Cities of Bandon and Langlois*. Neighbors which administer city programs.
- *Oregon State Marine Board*. Regulates recreational water use and safety and the licensing of guides and outfitters for the State of Oregon.
- *Coquille Indian Tribe and the Confederated Tribes of Siletz Indians of Oregon*. Protecting the culture and heritage of the local native American groups.
- *Oregon Department of Agriculture*. In charge of plant species listed under the Oregon Endangered Species Act and noxious weeds.
- *Adjacent landowners*. Land use on adjacent lands can impact resources and use on New River area, and vice versa.
- *The Audubon Society, Ducks Unlimited and other environmental groups*. Aid and support land management direction; encourage the protection of habitats and species.



USFWS biologist Joe Burns makes a trip to New River during initial Threatened and Endangered Species consultation between the two agencies.

Groups such as Defenders of Wildlife and The Nature Conservancy (TNC) have been very important in the acquisition of New River land. For example, Defenders of Wildlife has supported the use of Land and Water Conservation funds for land acquisition, and TNC initially purchased the Storm Ranch and Hammond properties and then turned them over to BLM for management. TNC continues to provide BLM with ongoing monitoring and inventories of Aleutian Canadian Goose and snowy plover

Shoreline Education for Awareness (SEA) from Bandon has expressed an interest in assisting with interpretive and/or educational opportunities with the help of their docents. In addition to organized groups, supporters of New River also include local residents, adjacent landowners and politicians.

Without such allies, BLM would have a difficult time garnering support to manage areas such as New River. It is vital to the health of the New River system, that BLM maintain existing relationships with such people and groups while establishing new linkages with other organizations and individuals.

Access

Objective 7 - Provide reasonable access to visitor use areas and the river with minimal impacts to natural/cultural resources and visitor experiences.

Reasons for Action

- Access to New River has historically been controlled by a few private landowners.
- Increased visitation to the New River area may degrade the area's natural resources.
- OHV use negatively impacts the success of the western snowy plover, a federally threatened species (Fed. Register Notice; Stems et. al., 1991; Craig et. al. 1992).
- Mining access could degrade the scenic and unique resource qualities found at New River.

Planned Actions for Objective 7

General

- Allow public road access to the fishing area during salmon fishing season (October through March) for fishing access.
- In addition to the already established entrance gate, install four other gates (see Map 11):
 - a) Permanent gate at entrance to old bog.
 - b) Seasonal gate at Kiosk - open October 1 - March 31 for salmon fishing. The road would be maintained (graveled) but kept in a primitive state.
 - c) Permanent gate at turnoff to Muddy Lake. This closed portion would be maintained for non-motorized access (foot, horse, wheelchair and bicycle traffic) by adding gravel and filling mud holes.
 - d) Permanent gate on 14-acre parcel, blocking vehicle access to the wetland meadow.

- Brush and close the spur road to the river off Muddy Lake Road which will encourage it to grow over.
- All existing BLM administered lands within the New River ACEC will be managed in accordance with the goals and objectives outlined in this plan.
- BLM may restrict use of the area by limiting the number of vehicles or visitors to the area if resource damage becomes evident and no other management actions, including LAC directives, have taken care of the problem.
- Future acquired lands, which qualify for ACEC designation, may be managed under the same goals and objectives or have even more stringent protection measures placed upon them. Such designations may include Research Natural Areas (RNAs), or Botanical Special Interest Areas (BSIAs).

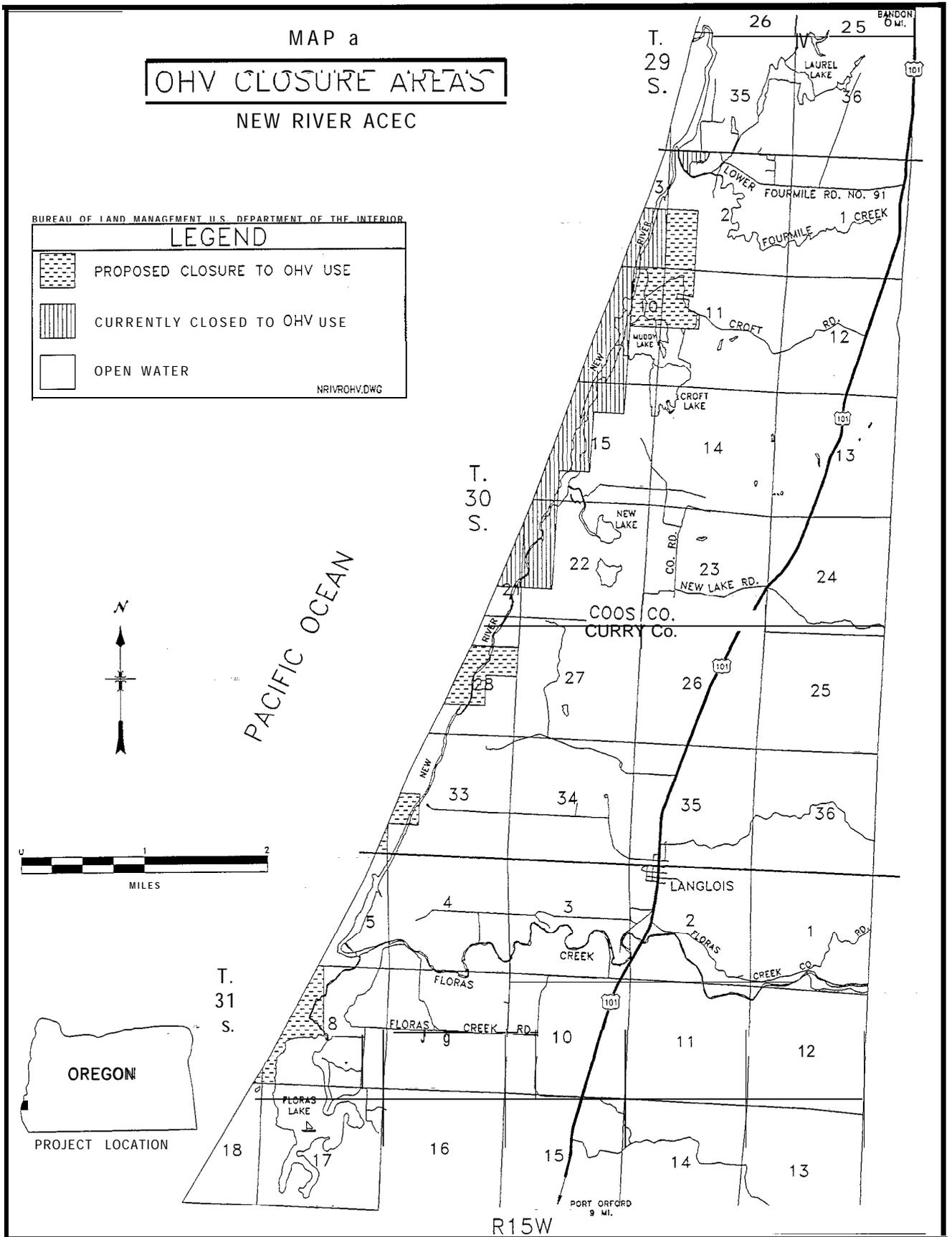
Withdrawal and Closures

OHV Closures

- Enforce current OHV closures on lands within the ACEC (map 8). Exceptions include: access over designated roads, administrative access, and special permits for scientific research on the dunes (per Federal Register Notice dated October 2, 1980).
- Close to OHV use, acquired lands proposed for ACEC designation (map 8).

Mineral Withdrawal

- All BLM administered New River lands are closed to mineral exploration; approved April 1993. Future acquired lands will also be closed to mineral exploration,



Monitoring and Research

Objective 8 - Facilitate improved management of the New River area through monitoring and research to learn about the natural and cultural resources of the area.

Monitoring

Reasons for Action

- Monitoring offers a means of ensuring compliance with federal and state laws and regulations.
- Filling existing information gaps would enable the BLM to better manage the area in the future.
- Evaluating existing management strategies provides feedback to determine the success in meeting established objectives.

Planned Actions for Objective 8 - Monitoring

General

- Develop a New River monitoring plan that identifies priorities, objectives, methodologies, guidelines, data administration, management and scheduling of activities.
- Establish measurable resource objectives and Limits of Acceptable Change (LAC) by focusing efforts on priority resource issues and opportunities.
- All surveys and monitoring which are applicable from the Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl and its Record of Decision (Interagency, 1994) will be performed in conjunction with the other monitoring actions in this Plan.

Botany

- At Fourmile Creek, monitor silvery phacelia through photo points established in 1992. Monitor points on alternate years throughout the life of the plan or until no longer necessary.
- Assess special status species reintroduction success by monitoring introduced populations of pink sand verbena on the foredune and western lily at Storm Ranch/Muddy Lake.
- Determine potential population trends, threats and habitat changes by visually monitoring, on a yearly basis, populations of all special status plant species occurring in the ACEC.

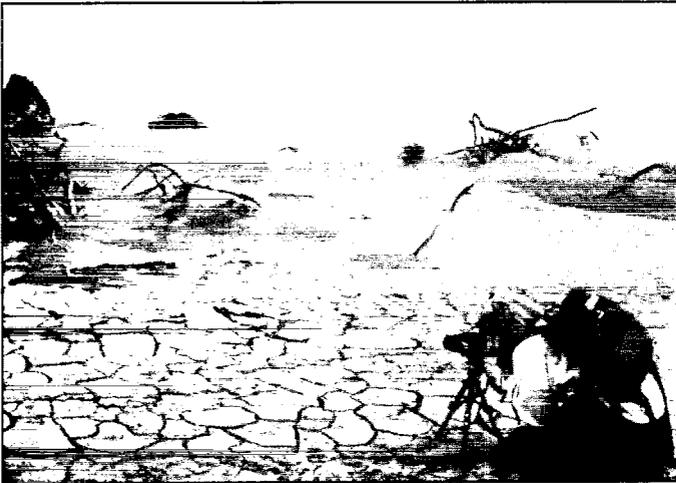
A description of the LAC system can be found on page 3-16.



Skunk or fox den on New River's foredune. Beachgrass on the foredune has enabled the Snowy Plover's natural enemies to den closer to their nesting sites. Predators such as this take a heavy toll on nests and young.

Fisheries

- Conduct an angler creel survey jointly with ODFW for catch of anadromous fish in New River to determine the fish population age structure and composition and the fishing pressure. Run the surveys for one to three years, with an additional two years dependent on the success of preceding surveys.



- Conduct a basic inventory for cutthroat and coho salmon and juvenile chinook salmon, independent of creel survey.
- Continue to gather baseline information for an annual report on breaching, flows, and habitat use by all fish species. Also see monitoring/research section.
- Use aquatic invertebrate sampling techniques to monitor and evaluate general water quality in New River.

Grazing

- Continue photo plots on each lease area. Yearly photographs will be taken approximately one week before livestock enter the allotment and one week after they are removed. Before and after photographs will be used to estimate the level of grazing. Photos should indicate any changes in vegetation over a period of years.
- Monitoring of ecological status of riparian/wetland vegetation (see hydrology section below) will also indicate vegetative changes which are livestock related.

Hydrology

- Determine the ecological status (condition/trend) of riparian/wetland vegetation through monitoring of key species in the "green line" along the margins of New River. Accurate riparian/wetland vegetation maps are necessary to establish baseline condition

and trend. Low level photography (color - low tide, winter and summer) as well as on-the-ground plots will be examined at 4-year intervals to establish trend.

***M**onitoring is a crucial tool for proper management because it helps determine trends. Initially, inventories establish the baseline at New River. Through time, monitoring information is compared to the baseline and helps specialists determine whether the area is improving or degrading.*

- Determine how the river is changing as vegetation stabilization along the river improves and upland management improves. Cross-section and gradient profiles will be documented to establish a baseline condition. Profiles will be repeated every 2-3 years.
- Evaluate water quality conditions for selected physical and chemical parameters over a range of flows. Based on results of analysis, make recommendations for improvement of water quality if necessary.
- Chart salinity regimes in New River to correctly delineate the various riverine and estuarine habitats so that appropriate management techniques can be applied to each. Also, review trends in saltwater wedge incursion to learn more about physical processes at New River.

Recreation

- Manage resource impacts from visitor use by establishing and using the Limits of Acceptable Change (LAC) system.
- Use visitor surveys to understand visitor desires, trends, and comments and to help determine the effectiveness of interpretive/educational programs and facilities.
- Evaluate the effectiveness of brochures, orientation panel, interpretive exhibits, etc. on a yearly basis.

- In cooperation with ODFW, monitor hunting usage south of Croft Lake outlet within the New River ACEC.



Photo points help scientists determine how quickly vegetation is growing and changing.

Wildlife

- Complete inventories of wildlife species and their habitats. Inventories should be conducted for mammals (including but not limited to bats, mice, voles and shrews), herptofauna (reptiles and amphibians) and invertebrates. An inventory of birds has been completed but bird species should continued to be monitored in order to document the changes (natural and other) in density and diversity which may occur over time.
- Monitor the status of: Aleutian Canada Goose, snowy plover, bald eagle, peregrine falcon, shore birds, neotropical birds, and small mammals through a consistent annual monitoring program. Track the effect of developments and/or projects on wildlife habitats and behaviors.
- Determine the desired acreage of habitats to be maintained for identified wildlife species or groups of identified wildlife species.
- Determine what management practices are needed for the long term management of those habitats.

- Develop and implement an annual program to monitor the affect of projects and/or developments (i.e., rest rooms, trails, viewing structures), boat launch, etc.) on wildlife behavior and habitat use. This monitoring should include information about presence and absence of wildlife species in certain use areas associated with human activities. Other monitoring should include standards and methods to monitor snowy plover (and other species) activities and habitats.
- Document the success of habitat manipulations and/ or other potential impacting management actions,

Research

Reasons for Action

- Broaden human understanding of the area and fill existing information gaps to better manage the area in the future.
- Recovery needs for some threatened/endangered species in the New River area must be identified.
- Conflicts between recreation activities and natural functions at New River need to be identified.
- Hydrologic functions at New River should be defined.
- The dynamics of coastal ecosystems are not fully understood.
- Fisheries information could define New River chinook as a unique population (which would ensure protection under the ESA should the need arise).

Planned Actions for Objective 8 - Research

General

- Establish New River research priorities and sponsor research through a research facility and program.
- Seek funding for research projects by preparing grant proposals, in coordination with a “friends” group or other local groups. Include state and federal agencies, academic communities and private consultation firms.

- Provide opportunities and facilities for outside research projects consistent with the goals and objectives of the ACEC.
- Coordinate with private neighboring landowners regarding research projects which are adjacent or pertinent to their lands.

Little is currently known about the depth, use and age of prehistoric cultural sites in the New River area. Auguring and excavation would provide faunal and lithic debris which can be analyzed.

Archaeology

- Determine dates of occupation and the use and importance of sites by instituting a program for gathering and analyzing material from sites, possibly using carbon 14 testing and hydration of obsidian samples.

Botany

- Determine the status of the sand dune beach community.
- Investigate the interrelationships between the various communities currently existing in the ACEC.
- In long term study plots examine *Armillaria ponderosa* mushrooms to determine biomass production and importance to wildlife. Also examine the correlation to environmental conditions such as temperature, moisture, soil type and duff thickness and study different removal techniques on mushroom productivity.

Fisheries

- Conduct a comprehensive study of chinook and/or coho salmon life history in the New River basin, including out-migration timing, size and growth, and limiting habitat factors.
- Examine the thermal tolerance of New River chinook salmon. Apparently healthy chinook salmon smolts have been seined in water that exceeded their theoretical critical thermal maximum.

- Collect genetic (electrophoresis) data on New River chinook salmon in conjunction with the thermal tolerance study.
- Determine the abundance/distribution of benthic and aquatic invertebrate species in New River, and assess their relative importance to the aquatic food web (minimum of two-year study).
- Determine the status and extent of exotic fish in New River and its tributary streams and lakes.
- Compile historical accounts of the activities, fish runs, usage, etc., from long time local residents and documents available through local libraries and courthouses.

Hydrology

- Define the interaction of watershed and river, ocean currents, climate and geomorphological processes in maintaining stable open river mouths and estuaries for New River and other coast range streams.



The "tri-tri-tri" of Barn Swallows is commonly heard at Storm Ranch. **Photo credit: O.D. Swisher.**

- Study concurrent adjustments of New River base level, sediment supply, flow, width and depth and other variables in an effort to determine how far north the river mouth will continue to move.
- Define aquatic habitat requirements and identify the stream flows needed to maintain this aquatic habitat. Data will be used to obtain an instream flow water right for New River.
- Study the effects that the local area drawdown of near surface freshwater aquifers for agricultural uses has on surface flow in New River, and the risks of diminishing flow in New River, especially during summer/fall.
- Evaluate ground water distribution in the New River coastal dunal aquifers and safe yield.
- Determine what flushing flow levels and duration, in balance with other interrelated hydrologic variables, are necessary to maintain a New River channel.
- Study the effect a closed mouth with a rapid fall/early winter breakout has on stream function.



Wild strawberry nestled among drift wood.

- Study effects of “theoretical breaching” at various points along the river/shoreline.

- Estimate the amount of water storage that can be achieved by improving/developing branch stream riparian/wetlands.

Recreation

- In conjunction with the interpretation program, develop and implement a visitor use measurement strategy as a way of determining visitor use characteristics, including visitor preferences relative to facilities, opportunities and settings provided at New River.
- Determine the human-use carrying capacity of New River’s Watchable Wildlife areas to help adjust visitor use.

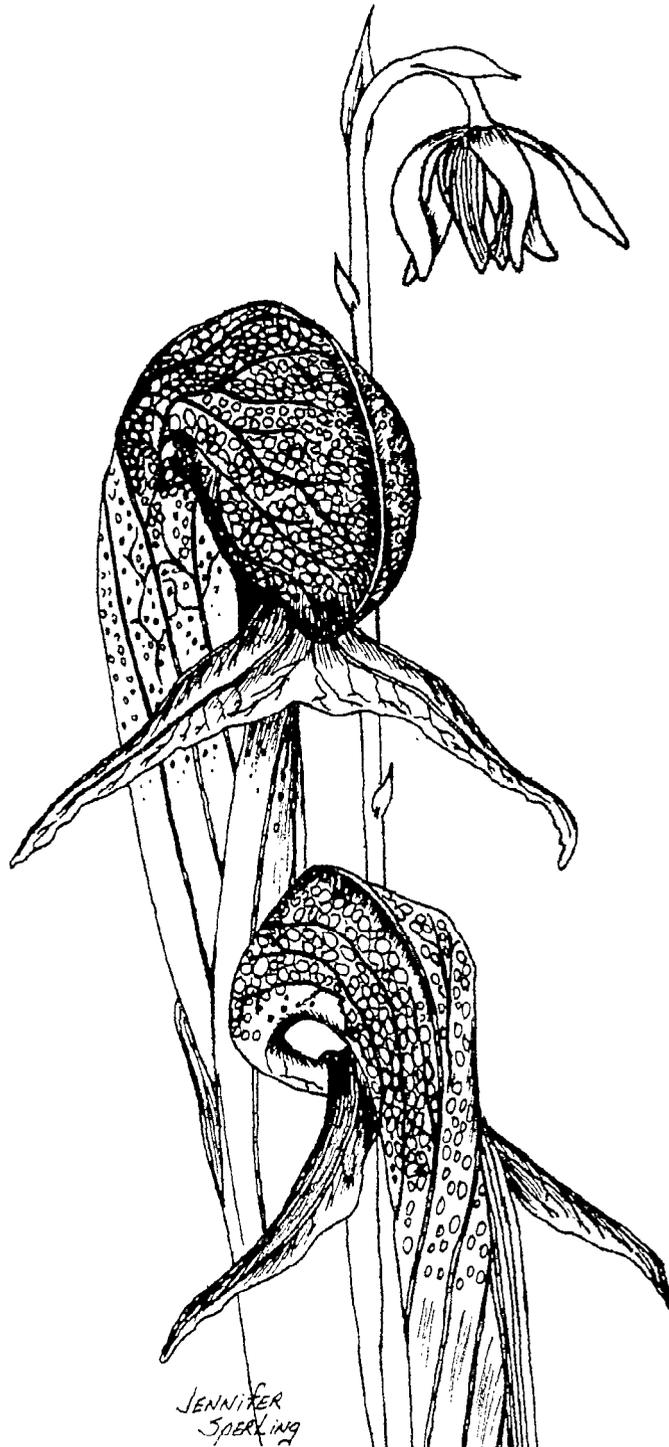
To keep every cog and wheel is the first precaution of intelligent tinkering.”
Aldo Leopold

Wildlife

- Identify historical levels of various habitat structures (e.g., woody material) along the river and the ecological importance of certain wildlife species to the New River area.
- Ascertain what impact the lack of large predators has on the ACEC and associated ecosystems.
- Identify limiting factors (i.e., nesting locations, clean water, foraging areas, etc.) and what levels of these limiting factors affect species use of habitats within the ACEC. This may be used to identify hazards or overuse conflicts.

PART FOUR

COST ESTIMATES



PART 4

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BASIS OF COST ESTIMATE

Management actions proposed under each alternative have been combined under four main categories:

Site Administration - includes support and coordination,

Resource Management - projects, inventories and monitoring.

Facilities Development - construction, maintenance and improvements.

Visitor Services and ACEC Use Management - staffing, use monitoring, interpretation, signing.

Four phases were determined necessary to fully implement the plan. A phase can be a series of years or one year, depending on the level of funding and staff availability. Table 6 shows estimated cost by phase and category. Further description of specific category actions by phase, begin on page 4-5.

Cost Implementation Table**Table 6. COST IMPLEMENTATION**

		Management Plan
Phase 1 of Plan SUBTOTAL	Site Administration	\$104,260
	Resource Management	\$38,610
	Facilities Development	\$73,580
	Visitor Services	\$35,570
	SUBTOTAL	<u>\$252,020</u>
Phase 2 of Plan SUBTOTAL	Site Administration	\$215,400
	Resource Management	\$49,770
	Facilities Development	\$103,950
	Visitor Services	\$27,810
	SUBTOTAL	<u>\$396,930</u>
Phase 3 of Plan SUBTOTAL	Site Administration	\$68,940
	Resource Management	\$63,320
	Facilities Development	\$289,600
	Visitor Services	\$19,710
	SUBTOTAL	<u>\$441,570</u>
Phase 4 of Plan SUBTOTAL	Site Administration	\$71,980
	Resource Management	\$67,800
	Facilities Development	\$141,810
	Visitor Services	\$14,620
	SUBTOTAL	<u>\$296,210</u>
Extended Yearly Estimates SUBTOTAL	Site Administration	\$76,020
	Resource Management	\$24,920
	Facilities Development	\$26,220
	Visitor Services	\$11,520
	SUBTOTAL	<u>\$138,680</u>
	TOTAL	<u>\$1,525,410</u>

PHASE 1

Site Administration: Utilities; Withdrawals: mining (land records), applications and posting, OHV posting and coordination, hunting posting, Federal Register notice, and coordination; Volunteer maintenance subsistence; Vehicles: Site administration costs; State fire protection contract; Site manager; Mule ATV for hauling, trail repair, and visitor services; NEPA process (EA writing) for road work, facilities, day use area.

Resource Management: Grazing/landowner/agency coordination; Grazing plan; Grazing photo point establishment; Resource monitoring - silvery phacelia, salmon studies, aquatic health, general wildlife, etc.; T&E habitat management; Specialists support services: Wildlife inventories; Cost share fisheries angler inventory.

Facilities Development: Install gates at kiosk, old bog, 14 acre parcel, Muddy Lake; Remove some fences/modify others; Feasibility Study; Build entrance sign; Add benches along trails; Specialists support services; Barriers at boat launch/keep vehicles out of river; Miscellaneous fund - facilities maintenance; Vault toilet maintenance (making handicapped accessible); Vault pumping.

Visitor Services: Site host; Signs for trails; Interpretive prospectus - Specialists support services; LAC plan; Regulatory signing (3) fiberglass.

PHASE 2

Site Administration: Site administration costs; Survey and post boundaries; Annual coordination meeting; Utilities; Volunteer maintenance subsistence; Vehicles; NEPA process/ EA writing for learning facility, viewing platform, water system, storage building, rest rooms, site host improvements; State fire protection contract; Site manager.

Resource Management: Watershed council; Vegetative plan; Resource monitoring - silvery phacelia, salmon studies, aquatic health, general wildlife, etc.; Wildlife inventories; T&E habitat management; Grazing/landowner/agency coordination; Specialists support services; Cost share fisheries angler inventory; Cultural Management Plan.

Facilities Development: Rest room Design; Road maintenance and improvement of entrance; Trail maintenance; Administration costs for arena and barn removal; Remove ranch house/ research historic information; *Design process begins for research/ learning facility, (25% final cost); Improve fishing area parking lots, ramp and road; Specialists support services; Install day use facilities (1-2 wheelchair accessible); Miscellaneous fund - facilities maintenance; Vault pumping.

Visitor Services: LAC monitoring; Fisheries outreach: Interpretive signs at fishing area; Specialists support services; Site host; Breaching and snowy plover interpretive signs.

*dependent on feasibility study

PHASE 3

Site Administration: Site administration costs; Water quality testing; Annual coordination meeting; Utilities; Volunteer subsistence; Vehicles; State fire protection contract; Site manager.

Resource Management: Watershed council; Water testing, parameters design, agency coordination (river); Resource monitoring - silvery phacelia, salmon studies, aquatic health, general wildlife, etc.; Native plant reintroduction; T&E habitat management; Grazing coordination; Specialists support services.

Facilities Development: Trail maintenance; Sign and kiosk maintenance; River Road and entrance road maintenance, regrade - base and surface materials; Design process begins for replica of ranch house; *Build research/learning facility; Storage building and office; overhead, administration and design; Viewing platform (Muddy Lake); *Install water/septic systems, storage and larger pump, including engineering costs; Reconstruct host site (sewer, water, etc.); Entrance area rest rooms and admin. costs (16x20); Specialists support services; *Maintenance person (part-time); Cleaning supplies/paint/tools, etc.; Miscellaneous fund- facilities maintenance; Vault pumping

Visitor Services: History and prehistory interpretive research; LAC monitoring; Specialists support services; Site host; Interpretive sign for Muddy Lake; *Seasonal interpreter

*dependent on feasibility study

PHASE 4

Site Administration: Site administration costs; Water quality testing (ranch); Annual coordination meeting; Utilities; Volunteer subsistence; Vehicles; State fire protection contract; Site manager.

Resource Management: Watershed council; Water testing (river); Resource monitoring - silvery phacelia, salmon studies, aquatic health, general wildlife, etc.; T&E habitat management; Sand verbena, lily and other plant species reintroduction; Riverbank enhancement (50 acres over time); Grazing coordination; Specialists support services.

Facilities Development: Trail maintenance; Maintain benches; Build replica ranch house (office/barracks); Access point maintenance; Sign and kiosk maintenance; Challenge cost share garden; Specialists support services; *Maintenance person (part-time); Cleaning supplies/paint/tools, etc.; Miscellaneous fund - facilities maintenance; Vault pumping.

Visitor Services: LAC monitoring; Specialists support services; Site host; *Seasonal interpreter.

*dependent on feasibility study

EXTENDED YEARLY ESTIMATES

Site Administration: Site administration; Water quality testing (ranch); Annual coordination meeting; Utilities; Volunteer subsistence; Vehicles; Site manager; State fire protection contract.

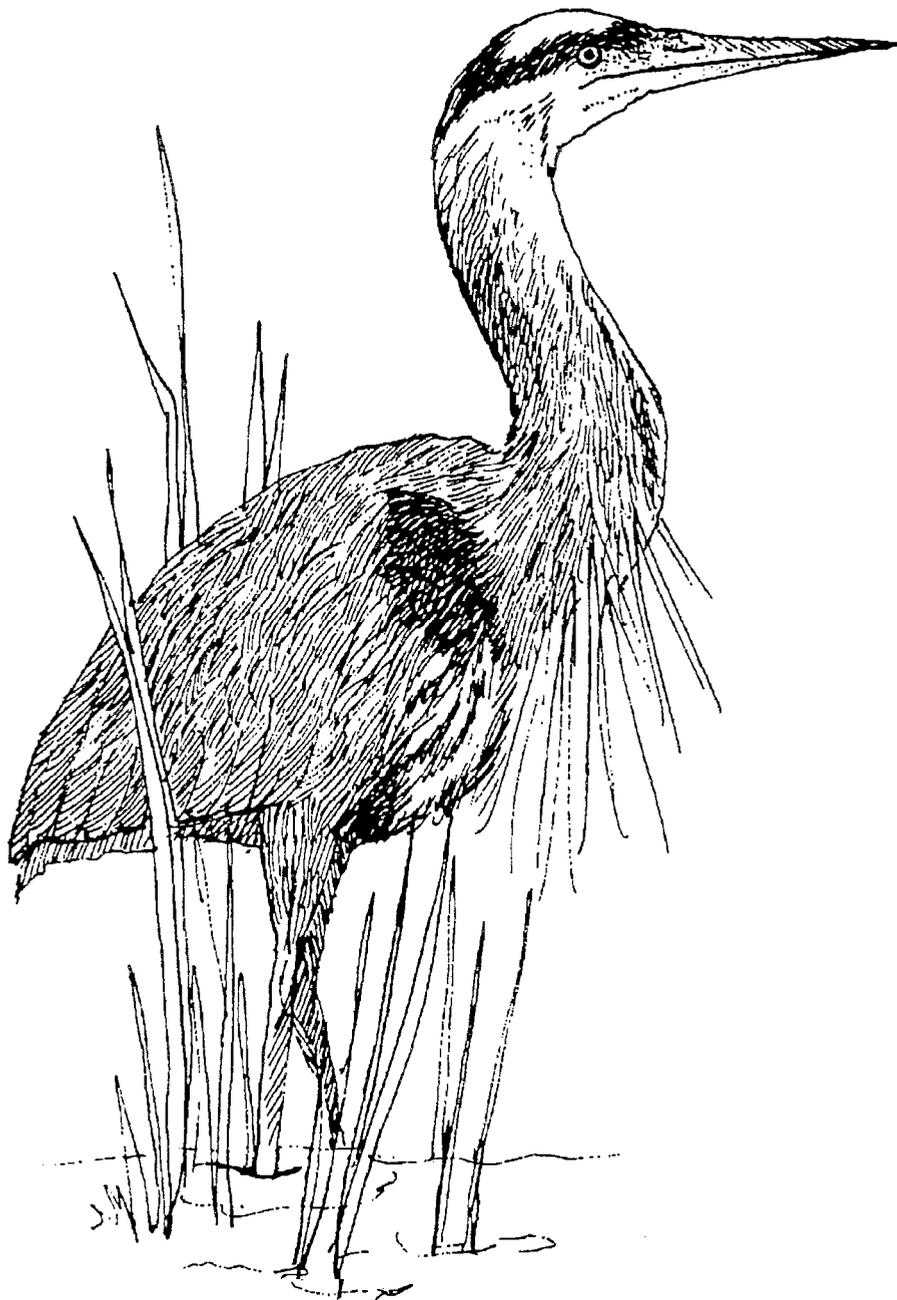
Resource Management: Watershed council; Water testing (river); Resource monitoring; T&E habitat management; Sand verbena, lily and other plant species reintroduction; Grazing coordination; Specialists support services.

Facilities Development: Maintain tables and benches; Trail maintenance; Sign and kiosk maintenance; Road maintenance; Specialists support services; *Maintenance person (part-time); Cleaning supplies/paint/tools, etc.; Miscellaneous fund - facilities maintenance; *Research/learning facility maintenance; Vault pumping.

Visitor Services: LAC monitoring; Specialists support services; Site host; *Seasonal interpreter.

*dependent on feasibility study

APPENDICES



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APPENDIX A

CHRONOLOGY OF EVENTS AT NEW RIVER

The following information has been gathered from historical documents and journals, newspapers, personal interviews, and BLM record and correspondence files. Some dates are approximations. The timing shown for prehistoric Native American events reflects current archaeological interpretation. Native Americans believe they have resided in the area since the beginning of time.

3000 B.C. - A large shallow estuary covers most of the area between Croft Lake and Floras Lake. Indian villages are located at the estuary's north and eastern edges, including west of Muddy Lake and on knolls near Bethel, Morton, Langlois, and Floras Creeks. Hunting and acorn and root gathering are primary economic pursuits. The climate is warm and dry, and much of the country east of New River is covered by savannah oak vegetation. The native culture, as well as the vegetation, is very similar as areas to the south. The people live in circular houses, hunt with spears and atlatls, and worship bears.

500 A.D. - As the weather becomes cooler and wetter, forests are dominated by conifers rather than savannah oak. Sand builds up along the beach in front of the ancient New River estuary, creating a vast swamp interspersed with shallow lakes. A wave of migration from the north brings new cultural traits and the Athapaskan language to the New River area. The Qua-To-Mah tribe occupies a territory extending from New River in the north to Humbug Mountain in the south. Major villages are located at the north end of Floras Lake, on the south end of New Lake, at the outlet of New Lake, and west of Croft and Muddy Lakes. Primary economic pursuits are fishing, shellfish gathering, hunting of sea and land mammals and waterfowl, and gathering of roots and berries in the New Lake marshes. The people live in rectangular plank houses, hunt with bows and arrows, and worship salmon and sea mammals.

1500 A.D. - A major earthquake strikes the region, forcing much of the New River area to subside one to two feet. Floras Creek, which may have previously drained directly into New Lake, carves a new channel and flows west to the ocean before turning north.

1600 A.D. - Spanish, English, and other European explorers begin to visit the south coast of Oregon. The Qua-To-Mah obtain metal and glass objects from trade and shipwrecks, but also are exposed to virulent diseases like smallpox. This trade climaxes in the late 1700s, when many European vessels stop at Port Orford in search of sea otter and beaver pelts.

1603, January - The Spanish vessel *Trey Reyes*, captained by Martin Aguilar and Antonio Flores, sails along the southern Oregon coast after being blown off course by a storm. They name Cape Blanco.

1800 A.D. - By this time, the Lower Coquille and Qua-To-Mah Indians gather at Floras Creek each fall to catch salmon when the river breaches the foredune.

1826 - Alexander McLeod, a trapper for the Hudson's Bay Company, and his men head south on a journey of exploration from the Umpqua to the Rogue River. When he reaches Floras Creek, he observes "passed a small river (named) by the natives 'Chiste Etudi.' Formed our camp near where our people were lately trapping, on the border of an extensive marsh or swamp." Because of the presence of a considerable outlet from the lake, he was forced to hire Indian canoes to reach the main Indian village on the northeast end of Floras Lake.

1828 - Jedediah Smith and 18 men travel up the beach in front of the deflation plain which would become New River, on their journey up the Oregon coast as they searched for beaver pelts.

Appendix A - Chronology

1851, June - John Kirkpatrick and eight men cross the New River country during their escape from an Indian siege at Battle Rock near Port Orford. Kirkpatrick, in describing the area around New Lake, writes “about three o’clock the next day, we came to the edge of what seemed to us a large plain. It looked to be miles in extent, and was covered with a heavy growth of high grass, and proved to be an immense swamp. We now determined to try and cross this swamp and reach the sea after dark and travel all night. We floundered around in this swamp all night, sometimes in water up to our armpits, until after dark we found a little island of about an acre of dry land and covered with a thick growth of small fir bushes. Here we laid down and tried to rest and sleep but encountered a new enemy in the shape of clouds of mosquitoes.”

1852 - The U.S. Army establishes a post at Port Orford and begins patrols into the surrounding countryside to control Indian activities. They graze their considerable horse herd on the lush prairies along lower Floras Creek.

1856, Spring - All of the Indian tribes from the Coquille to the Chetco River rebel against the invasion of white settlers and miners into their territory. The settlers stay at a fort in Port Orford until the Indians are defeated by the U.S. Army and deported to a reservation in northern Oregon.

1856 - At the end of the Rogue Indian War, settlers begin taking out donation land claims between Floras Creek and the discovery of gold in California creates a tremendous market for farm produce, including cheese and butter, salted beef and mutton. Farmers haul their goods by wagon to Port Orford or Bandon, where they are loaded on schooners and shipped to San Francisco. Among the earliest settlers were Isham Cox, Chris Long, William Langlois, A.H. Thrift, and Shipman Crouch. Ditching and draining of wetlands begins.

1865 - The McClellens establish a ranch at New Lake.

1868 - A tremendous forest fire burns between Port Orford and Bandon, destroying most of the settlers’ homes and livestock. The extensive elk herds that once grazed on the Floras Creek river bottoms are almost wiped out.

1873 - William Gallier establishes the New Lake Dairy on the east side of the lake.

1876 - Settlers on lower Floras Creek include the Brocks, Chris Long, William Langlois, William Burriss, Jonathan Scott, Edward Burroughs, Al Thrift and the Bumaps.

1880 - Frank Langlois and A.H. Thrift form a partnership for the establishment of a store on the Langlois farm a mile west of the present town of Langlois.

1880 - The mail route between Bandon and Langlois follows the beach from Bandon to near Croft Lake, where it turns inland and follows the ridge bordering the north side of Conner Creek. From this point, it turns south and follows the present course of Highway 101.

1881 - A post office is established at Langlois.

1889 - The town of Dairyville (present day Langlois) is platted in 1889 by A.H. Thrift. Thrift’s farm is located on the north side of Floras Creek and west of the present town of Langlois. Historian Orville Dodge writes in 1898, “We refer to A.H. Thrift, whose broad acres of rich bottomlands join the town plat and support a hundred cows of improved blood.”

1890 - A tremendous flood wipes out some farms along Floras Creek, and the floodwaters flow through the deflation plain north of Floras Lake outlet, prompting local ranchers to say that it looks like a new river.

1893 - The largest dairy ranch in Curry County, the Starr Dairy, milks up to 150 cows daily. This ranch is located north of Willow Creek.

1897 - Floras Creek and the outlet of Floras Lake join to form a short river that runs north for about one mile and enters the ocean southwest of New Lake. New Lake and surrounding marshes are drained by a short river that enters the ocean northwest of New Lake. Fourmile Creek is the third outlet shown entering the ocean northwest of Croft Lake. Croft Lake

is drained by a narrow channel that flows south into New Lake. These streams are connected by a deflation plain extending from north of Floras Lake to Laurel Lake that fills with water each winter. The beach in front of this deflation plain is very flat beach and is constantly breached in different locations.

1900 - Several families of Native Americans obtain allotments in the hills east of New River, along Fourmile and Floras creeks. They work part-time for local ranchers.

1900-1935 - Each fall, New River is artificially breached by farmers who supplement their income by gillnetting salmon for sale to local canneries. The location of the breach changes often as adjacent landowners compete to see who can get to the salmon first.

1903 - Maps drawn in 1903, 1913, 1932, and 1936 all show New River as a contiguous stream running from Floras Lake to the outlet west of Croft Lake. However, these maps also show that New River has a second mouth located southwest of New Lake. Through most of the year, Floras Creek and the outlet of Floras Lake flow through the southern breach, while New Lake drains into the northern breach. The two systems are connected only during periods of high winter runoff. Local residents refer to the outlet of New Lake as New River.

1903 - Wallace Pomeroy homesteads on the southeast side of New Lake.

1911 - Edith Gallier and her family move to the New Lake Dairy. Edith attends school in a one-room schoolhouse at New Lake, where the first eight grades are taught.

1915 - One of the earliest cranberry bogs in the Bandon area is built on the east side of Muddy Lake by Henry Eden and Dr. Roland Leep. The spruce swamp is cleared by hand, and a steam donkey is connected to a haulback to obtain sand from dunes east of New River. These bogs are hand picked by local women who are hired each fall, and paid in vouchers that can be redeemed at several Bandon businesses.

1915 - Hans Hansen leases the Starr Ranch, and milks 150-175 cows daily. He soon establishes the Langlois Cheese Factory and begins producing blue cheese in 1931. By 1941, the Langlois plant is producing half a million pounds a year.

1917 - Joseph Stankeiwicz, a pioneer cranberry grower in the Croft Lake area, crosses the McFarlin cranberry vine with wild vines from a marsh at New Lake to create the *Stankevich* variety. This variety produces well and is planted in several bogs near New River.

1930 - European beachgrass, first introduced to the Oregon coast in 1915, becomes established in the New River area, and a beach ridge begins to form along the coast from Floras Lake to Fourmile Creek.

1920-1940 - Farmers attempt to gain new grazing land by draining the marshes south of New Lake. A. H. Thrift is the first rancher to construct a ditch using a steam donkey on a sled. Bono Ditch is created, and Hansen Slough and Langlois Creek are straightened and deepened to drain excess water from shallow lakes/marshes, and to provide additional grazing for the large dairy herds of Joseph Bono and Hans Hansen.

1939 - Shirley Brown acquires a 220-acre ranch at the mouth of Fourmile Creek, which at this time runs due west into the ocean. He operates a dairy, grazing the area from Croft Lake to Two-Mile Creek,

1939 - The Croft and Muddy Lake property is purchased from Isaac Storm by George Taylor, and the Croft Lake Club is founded.

1940 - Although the beach ridge continues to grow, there are still separate outlets for Floras Creek, New Lake, and Fourmile Creek. A 1939 aerial photograph shows the outlet of Floras Creek to the west of Bono Ditch. The photograph also shows some foredune development near the outlet of New Lake.

Appendix A - Chronology

1943 - Louis Knapp, Jr, purchases the historic 840-acre Thrift Ranch and begins farming it in 1947.

1945-1955 - A popular sport fishery develops in Bono Ditch with trolling for Coho salmon. Most of the New River salmon run migrates through New Lake and Bono Ditch into lower Floras Creek. The section of New River west of New Lake carries water only during midwinter.

1947 - Gerald Kamph purchases the Joseph Bono property south of New Lake and begins ranching.

1950 - The New Lake Gun Club builds a clubhouse on the east side of New Lake. Duck and goose hunting is excellent and is enhanced by planting of grain in fields near the lake.

1950 - Extensive plantings of shore pines are made on the Storm Ranch in an attempt to control shifting sand dunes. The trees begin to spread and cover much of the terrace bordering the east side of New River.

1951 - Lloyd Collins, University of Oregon archaeologist, records a prehistoric site at the "ocean entrance of New Lake, T. 30S, R. 15W, Sec. 10, NE 1/4." He further notes that the shell midden has been "wave-washed and largely destroyed," indicating the site's proximity to the mouth of the river.

1954 - A pronounced foredune covered with driftwood and clumps of beachgrass has developed along New River; and Floras Creek, New River and Fourmile Creek are combined to form one system, with the outlet northwest of Croft Lake. The river is very shallow with a sandy bottom and supports little vegetation.

1955-1975 - An intensive sport fishery develops at the mouth of New River. Local landowner Jack Storm controls the access to the fishing, and charges a one to two dollar entry fee. Several thousand fishermen visit his property each year, and catch large numbers of Coho and Chinook Salmon and Steelhead. He artificially breaches the river each fall in front of his property to control the fishery, and to maintain a deep lagoon (10-15 feet deep) at the river's mouth. In 1970, the Oregon Fish Commission begins stocking Floras Lake with Coho smolts, which greatly enhances the New River fishery.

1960 - The McKenzie family purchases the New Lake Ranch from Fraser and Graham. They continue to maintain the existing ditch (Bono ditch) between New Lake and Bono Lake. Public access is allowed for hunting and fishing.

1960 - The Croft Lake Club becomes the Croft Lake Association, and is incorporated with Don Farr of Coquille as trustee. Members are encouraged to preserve the natural condition of the area as much as possible.

1960-1976 - Jack and Ruth Storm attempt to wrest a living from the Storm Ranch, which is mostly comprised of shifting sand dunes and swampland. They feed 50-100 head of beef cattle, harvest cranberries from the old Westmoor bogs, charge fishermen an access fee, and sell Indian artifacts excavated from several of the village sites located on their property.

1961 - The Brown Brothers raise beef cattle on a 500-acre ranch at the mouth of Fourmile Creek. Their cattle range as far north as Two-mile Creek. They sell out to the Bussmans in 1979.

1964 - The state of Oregon establishes a minimum streamflow of 10 cfs for July and 5 cfs for August and September on lower Floras Creek to protect fishery values. This validates the state's water right and gives them priority over any other rights filed after 1964, but 18 pre-1964 permits are not subject to shutdown regardless of streamflow.

1963 - A major flood occurs at Christmas, inundating much of the farmland around New Lake and lower Floras Creek. New River is artificially breached near Floras Lake to help alleviate the flooding. This was an emergency measure that was not carried out for several subsequent years, probably because of the influence of Jack Storm.

1968 - After renting for several years, Rod McKenzie purchases the Starr Ranch from Buffington and Crook. He receives permission from the state to channelize portions of Floras Creek to clarify property boundaries and decrease flooding problems. Hunters and fishermen are granted access to the Starr Ranch, providing some of the best waterfowling along the coast.

1969 - The Oregon Beach Bill undergoes final revisions and is implemented. This establishes the state's right to a recreational easement west of the vegetation line, which on New River is determined to be along the east bank of the river. The historic artificial breaching of New River may have contributed to this decision by weakening the foredune. This law is vigorously opposed by local landowners, who say they were not notified by the state or allowed any formal comment before the law was enacted. They further contend that the zone line should be on the west, rather than east, side of New River.

1970, Winter - Bono Ditch becomes clogged with debris after a flood, and New River begins to increase in size and depth. Much of the best fish-rearing habitat between Bono and New Lake is lost, and fish runs—especially of Coho—begin a dramatic decline.

1973 - BLM District Wildlife Biologist/Recreation Planner Dick King prepares a report on New River identifying the outstanding recreational potential of this area, and estimates the existing use as 8,000 visitor days per year. He proposes that the BLM obtain a right-of-way to New River and develop a campground along Croft Lake Road. Also identified in this report are concerns for the Snowy Plover, which is rapidly declining in number.

1973 - BLM cadastral crews survey New River and set property corners for the first time. Much of the federal holdings here are accreted lands that have built up after beachgrass stabilized the foredune west of New River.

1973, November - New River is breached near the outlet of Floras Lake for the first time since the Christmas flood of 1964. This breaching is unauthorized and provokes a great deal of opposition from local sportsmen and Jack Storm. BLM representatives attend a hearing at Langlois to help resolve the differences between Storm and the newly-organized Floras Creek Water Control District (comprised of local ranchers). The BLM adopts a position supporting artificial breaching of the seawall near Hansen Slough between November and December of each year to help alleviate flooding and yet not interfere with the important fall sport fishery. This breach allows for about one mile of rearing habitat/estuary between the outlet of Floras Lake and the mouth.

1977, Spring - Alan Haga and other local landowners construct a check dam at the outlet of Floras Lake to maintain the lake level during a severe drought.

1977, July - Jack Storm sells his ranch to Arthur Allen. Allen closes the only access road into New River and discourages any public use of the area.

1977, November - Rod McKenzie offers to grant the BLM an easement across his ranch north of New Lake. Several potential problems are identified during an initial survey of this route, including the high cost of building a road through the New Lake marsh, the potential for disturbing populations of sensitive plants, and the fact that this road would provide access too far south of the desired fishing on the northern part of New River.

1977, December - Federal and state law enforcement personnel arrest Arthur Allen and several accomplices for smuggling 17 million dollars worth of marijuana through the Storm Ranch from a ship anchored offshore.

1980 - The Storm Ranch is acquired by the Wilson sisters, who are members of a popular rock group called Heart. They hire Mike Rainwater as ranch manager and use the ranch to train thoroughbred horses. Several riding trails are developed and used by the Rainwaters and other local residents.

1980 - The BLM adopts a ten-year Management Framework Plan that calls for the designation of New River as an ACEC (Area of Critical Environmental Concern), protection of outstanding wildlife and visual resources, easement acquisition to provide legal access for management and recreational purposes, and protection of sensitive plants from grazing and off-road vehicle (OHV) use.

1980, October - BLM's New River holdings are closed to off-highway vehicle use to prevent damage to fragile ecosystems, special status and/or sensitive plants and animals, and archaeological sites.

Annendix A - Chronology

1981, June - Recognizing that enforcement of the OHV closure on BLM lands is impossible when adjacent state lands are open to OHV use, the BLM asks the state to close their lands to the north and south of New River to OHVs. The state begins to study this request.

1981, June - John Christy of The Nature Conservancy completes a botanical survey of New River and the Storm Ranch. He concludes that most of the native plant communities have been badly disturbed by grazing and that the only plant of concern on BLM lands is the Silvery Phacelia. Other botanical surveys reveal that the river is rapidly filling up with sediments, and supports an increasing cover of vegetation as it becomes more stabilized.

1981, July - Judith Wickham completes a bird inventory of the New River area for the BLM. She discovers 13 Snowy Plover nests, none of which have a successful hatch. Subsequent inventories by the Oregon Department of Fish and Wildlife reveal that New River has either the largest (or second largest behind the North Spit) breeding population of Snowy Plovers on the entire Oregon Coast.

1981-1982, Winter - Heavy flooding and high winds precipitate a major move northward by New River. Both the mouth of the river and the river channel move from the NE 1/4 of Sec. 3, T. 30 S. on the Storm Ranch to the NW 1/4 of Sec. 35, T. 29 S., north of Fourmile Creek. This move is consistent with a gradual shifting of the mouth northward since 1950, when the foredune became established. The location of the mouth was somewhat consistent during the 1960s and early 1970s when Jack Storm artificially breached the river each fall near the north line of Section 10. Since Storm sold his ranch, the river is allowed to breach naturally most years, and has slowly carved its way north through the foredune.

1982 - The U. S. Fish and Wildlife Service becomes alarmed at the number of Aleutian Geese that are being killed by hunters each fall near New Lake. They close the river to goose hunting and begin monitoring goose migrations each spring and fall.

1982, January - Pan Aero Corporation applies for a permit to construct a windfarm at New River. Their application is eventually rejected, based on conflicts with sensitive species and visual resources.

1983, June - New River is designated as an ACEC, and a management plan is prepared.

1983, December - A plan addressing the opportunities for acquiring access to New River is completed. The preferred route is identified as across the Praher property between Lower Fourmile County Road and New River.

1983, November - The State Parks Department informs the BLM of their plans to improve vehicle access to the beach at Bandon State Park. This plan is opposed by the BLM due to its potential to increase unauthorized vehicle use at New River. The plan is subsequently modified to eliminate any improved access.

1984, August - The Oregon Natural Resources Council (ONRC) sends a petition to the Division of State Lands and Department of Transportation asking for a hearing to close all coastal estuaries to OHV use, as well as several specified beaches including New River. This hearing is held at Coos Bay in November. After taking public testimony, the Division of State Lands and State Department of Transportation set up task forces in each coastal county to develop an OHV use plan.

1985, April - A meeting is held with local ranchers Gerald Kamph and Rick McKenzie to address the need for fencing the ACEC. An agreement is reached with Kamph, who finishes fencing the southern boundary of the ACEC by August.

1985, August - While helping Gerald Kamph build the fence at the southern boundary of the ACEC, BLM employees discover that the river has dried up between Hansen Slough and New Lake, causing a considerable loss of salmon and steelhead smolts. The Kamphs complain that several of their cows have died after drinking brackish water, indicating a possible saltwater incursion into the water table.

1985, August - The Oregon Transportation Department meets in Coos Bay and considers a recommendation to close the beach from Two-Mile Creek to New River. Strong opposition from the Coos County Commissioners defers a decision on this matter, The commissioners contend the beach closure would infringe upon the public's right to use the beach.

1985, September - The Curry County Beach Task Force recommends closing the beach to OHV use from Blacklock Point to the Coos-Curry County line.

1985, September - Representatives of the State Land Board and State Parks Department visit New River and Bandon State Park to become familiar with management problems.

1985, September - County Water-master John Drolet is contacted regarding the lack of water in New River, and shuts down several irrigators who do not have valid water rights. Early September rains help to alleviate the water shortages.

1985, Fall - Commercial mushrooming becomes an important local industry. Two of the most valuable varieties, including the Matsutake and King Boletus, are available on the Storm Ranch in large numbers.

1985, December - The Coos County Beach Vehicle Task Force meets to determine if any beach closures are needed. No consensus is reached.

1986, June - Rick McKenzie signs a cooperative agreement to build a fence along the east side of New River to keep his livestock out of the ACEC. In return for fencing out 26 acres of his own land, McKenzie is allowed to use the ACEC for grazing during the month of August.

1986, September - BLM fishery biologist Keith Carpenter and Victoria Ursitti complete a two-month inventory of New River, They observe that surface flow in portions of New River between Bono ditch and New Lake outlet was often greatly reduced or interrupted for several weeks during late July/August. Reduction in flow can lead to isolation of fish, warming of water temperature, and high fish mortality due to suffocation, stress and predation.

1986, Winter - New River, which has periodically been breached artificially at the south end from 1973 on, is breached here for the last time in December. Attempts have usually been made to create the breach just south of Hansen Slough. This allows for the formation of a deep channel running from the outlet of Floras Lake to Hansen Slough, providing excellent fishing opportunities. Although the primary reason for the breaching is to alleviate flooding along lower Floras Creek, this effect is very temporary. The breach usually stays open for only a few weeks before sanding in again.

1986, Fall - After initially attempting to work out a land exchange with The Nature Conservancy for the 14.20 acre Praher property, the BLM successfully completes a land exchange for this property.

1987, January - The ONRC and other Oregon conservation groups make acquisition of all available private New River holdings a top priority, and ask for Land, Water, and Conservation Fund appropriations from Congress.

1987, September - BLM completes the first New River ACEC plan which is primarily an acquisition plan identifying private land to be considered for purchase.

1988 - The State Division of Lands and the Army Corps of Engineers become increasingly concerned about draining and ditching of wetlands in the New Lake area. Several warnings are issued to local ranchers regarding the filling of wetlands with ditch spoils.

1991, June - The Nature Conservancy acquires the 240 acre Storm Ranch and 105 acre Hammond Parcel and transfer titles to the BLM.

1993 - A sharp increase in cranberry field development is evident along Highway 101. Development increases in northern Curry and southern Coos counties.

1993, March - The snowy plover, a species of concern to the US. Fish and Wildlife Service for the last ten years, is formally declared a threatened species. The beach, north from Floras Lake to the mouth of New River, is one of the most important nesting sites for the species on the Oregon coast.

1993, December - The acquisition plan for the New River ACEC is updated to reflect new market opportunities, changes in land cost, and exchange potentials.

1994, July - A western lily population is discovered at New River.

1994, August - Western lily is listed as federally endangered under the Endangered Species Act.

1994, August - BLM acquires 111 acres, north and west of Floras Lake, from the Scofield Corporation,

1994, September - BLM begins scrutinizing water right applications in the New River basin due to concerns for water quality and quantity in New River.

1994, October - Approximately 70 new water right applications are filed within the last four years in the New River area.

1994, October - BLM requests ODFW to establish a minimum flow for New River, however, several years of data is required before ODFW is able to do this.

1994, December - BLM acquires the Lost Lake property from Helen Buck Russell. This property is the northeast most land to be acquired for the New River ACEC project and will be discussed in greater detail in the next New River ACEC Management Plan.

1994, December - BLM is invited to participate in the State Water Resources Alternative Dispute Resolution process regarding water right applications in the New River basin.

1995, January - Rancher Mike Knapp gets an emergency permit for flood control from the Oregon Department of Lands to breach New River's foredune. This mechanical breach occurred at the northern most part of Curry county-owned land in Sec. 5.

APPENDIX B

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Copy of the New River Plan

American Fisheries Society	Mother Earth Corporation
American Rivers	National Wildlife Federation
Association of NW Steelheaders	Native Plant Society of Oregon
Association of O&C Counties	Natural Heritage Program
Audubon Society	Natural Resources Defense Council
Cape Arago	Newspapers
Kalmiopsis	The Bandon Western World
Bandon Planning Commission	The Oregonian
Big Air Windsurfing	The World
Bureau of Land Management	Oregon Coast Sportsmen's Council
Medford	Oregon Coastal Wetlands
Oregon State Office	Oregon Department Fish & Wildlife
Roseburg	Oregon Department Land Conservation
Sacramento	Oregon Division of State Lands
Washington, D.C.	Oregon Historical Society
Coast Range Association	Oregon Kayak & Canoe Club
Confederated Tribes of Siletz Indians	Oregon Natural Resources Council
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COOS County Commissioners	Oregon River Experiences
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Cramer and Associates	Oregon Shores Conservation Coalition
Croft Lake Association	Oregon State Historic Preservation
Curry County Commissioners	Oregon State Parks Department
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Department of Environmental Quality	Pacific Fisheries Enhancement
Department of Land Conservation	Pacific Rivers Council
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APPENDIX C

PLANT COMMUNITIES & SPECIES IN THE NEW RIVER AREA

Plant Communities Identified in the New River Area

1. *Ruppia maritima* stands. Aquatic, New River.
2. *Scirpus olneyi* mud flats. Edges of New River.
3. *Juncus castillejooides* low herb meadows.
4. *Nuphar polysepalum*/*Potamogeton natans* ponds. Aquatic.
- 5a. *Darlingtonia californica*/*Ledum glandulosum*/*Sphagnum subnitens*. Mire.
- 5b. *Darlingtonia californica*/*Ledum glandulosum*/*Sphagnum mendocinum*. Mire.
6. *pacifica*/*Juncus leseuerii*. Dune slacks.
7. *Spiraea douglasii*/*Vaccinium uliginosum*/*Sphagnum mendocinum*. Dune slacks, seasonally wet.
8. *Deschampsia cespitosa* meadow. Seasonally wet.
9. *Alnus rhombifolia*/*Salix hookeriana*/*Spiraea douglasii*/*Carex obnupta*. Riparian woods.
10. *Pinus obnupta*. Wet dune swales.
11. *Picea sitchensis* forest. Successional climax.
12. Herb meadow, moist to dry.
13. *Juncus leseuerii*/*Stokesiella oregana*. Dunes swales, early successional, wet phase.
14. Unstabilized *leiocarpa*/*Cakile edentula*. Primary dune succession, grading into Type 15.
15. *Ammophila arenariascant* forbs, on stabilizing sand. Early successional.
16. *Juncus leseuerii* weeds on disturbed sand flats.
17. *Ammophila arenaria*/*Pinus contorta*/*Baccharis pilularis* stabilized sand dunes, early-mid successional.
18. *Pinus ovatum* woodland, canopy moderately open to closed.
19. Dry meadow, weedy.
20. *Arctostaphylos uva-ursi* heath.
21. sometimes cutover, on stabilized sand dunes. Probably a fire climax.
22. Cultivated *Vaccinium macrocarpon* bogs (presently abandoned).

(Source: Christy 1981).

Plant Species in the New River Area

<u>Scientific Family Name</u>	<u>Common Name</u>
LYCOPODIACEAE - club moss family <i>Lycopodium inundatum</i>	bog club-moss
EQUISETACEAE - horsetail family <i>Equisetum awense</i>	horsetail
POLYPODIACEAE - fern family <i>Athyrium felix-femina</i> <i>Blechnum spicant</i> <i>Polypodium glycyrrhiza</i> <i>Polypodium scolieri</i>	lady-fern deer fern licorice fern leather licorice fern

Appendix C - Plant Species

<u>Scientific Family Name</u>	<u>Common Name</u>
<i>Polystichium munitum</i> var. <i>munitums</i> <i>Pteridium aquilinum</i>	word fern braken fern
PINACEAE - pine family <i>Picea sitchensis</i> <i>Pinus contorta</i> var. <i>contorta</i> <i>Pseudotsuga menziesii</i> <i>Tsuga heterophylla</i>	Sitka spruce shore pine Douglas-fir western hemlock
CUPRESSACEAE - cypress family <i>Chamaecypariss lawsoniana</i>	Port Or-ford-cedar
LAURACEAE - laurel family <i>Umbellularia californica</i>	myrtlewood
NYMPHAEACEAE - water-lily family <i>Nuphar polysepalum</i>	yellow pond-lily
RANUNCULACEAE - buttercup family <i>Ranunculus flammula</i>	creeping buttercup
BERBERIDACEAE -barberry family <i>Berberis aquifolium</i> <i>Berberis nervosa</i>	Oregon-grape low Oregon-grape
PAPAVERACEAE - poppy family	creamcups
MYRICACEAE - sweet gale family <i>Myrica californica</i>	wax-myrtle
BETULACEAE - birch family <i>Alnus rhornbifolia</i> <i>Alnus rubra</i>	white alder red alder hazel nut
NYCTAGINACEAE - four-o'clock family <i>Abronia latifolia</i> *	yellow sand verbena
CHENOPODIACEAE - goosefoot family <i>Atriplex patula</i> <i>Chenopodium ambrosioides</i>	saltbush mexican-tea
PORTULACEAE - purslane family <i>Calandrinia ciliata</i> <i>Montia sibirica</i> var. <i>sibirica</i> <i>Montiaspathulata</i>	red maids western springbeauty pale montia

<u>Scientific Family Name</u>	<u>Common Name</u>
CARYOPHYLLACEAE - pink family	
<i>Cerastium arvense</i>	field chickweed
<i>Silene gallica</i>	catchfly
<i>Silene scouleri</i>	Scouler's catchfly
<i>Stellaria</i> sp.	starwort
POLYGONACEAE - buckwheat family	
<i>Polygonum paronychia</i>	beach knotweed
<i>Rumex acetosella</i>	sheep sorrel
<i>Rumex maritimus</i>	seaside dock
<i>Rumex occidentalis</i>	western dock
PLUMBAGINACEAE - leadwort family	
<i>Armeria maritima</i> var. <i>californica</i>	sea-thrift
HYPERICACEAE - St. John's wort family	
<i>Hypericum anagalloides</i>	bog St. John wort
SARRACENIACEAE - pitcher-plant family	
<i>Darlingtonia californica</i> *	California pitcher-plant
DROSERACEAE - sundew family	
<i>Drosera rotundifolia</i>	round leaved sundew
VIOLACEAE - violet family	
<i>viola lanceolata</i> ssp. <i>lanceolata</i>	lance-leaved violet
<i>viola macloskeyi</i> var. <i>pallens</i>	little white violet
<i>Viola sempervirens</i>	redwoods violet
SALICACEAE - willow family	
<i>Salix hookeriana</i>	Hooker's willow
<i>Salix</i> sp.	
BRASSICACEAE - mustard family	
<i>Brassica campestris</i>	field mustard
<i>Cakile edentula</i>	sea-rocket
<i>Cakile maritima</i>	european sea-rocket
<i>Capsella bursa-pastoris</i>	shepherd's-purse
<i>Raphanus sativa</i>	wild radish
<i>Sisymbrium officinale</i>	hedge mustard
ERICACEAE - heath family	
<i>Arbutus menziesii</i>	Pacific madrone
<i>Arctostaphylos columbiana</i>	hairy manzanita
<i>Arctostaphylos parviflora</i>	greenleaf manzanita
<i>Arctostaphylos uva-ursi</i>	bearberry
<i>Gaultheria shallon</i>	salal
<i>Ledum glandulosum</i>	Laborador-tea
<i>Rhododendron macrophyllum</i>	rhododendron
<i>Rhododendron occidentale</i>	western azalea

Appendix C - Plant Species

Scientific Family Name

Common Name

Vaccinium ovation
Vaccinium tnacrocarpon
Vaccinium uliginosutn

red huckleberry
evergreen huckleberry
cranberry
bog bilberry

PRIMULACEAE - primrose family

Centunculus minimus
Lysirnachia terrestris
Trientalis arctica
Trientalis latifolia

chaffweed
bog loosestrife
northern starflower
starflower

GROSSULARIACEAE - currant family

Ribes sanguineum

red flowering currant

ROSACEAE - rose family

Amelanchier alnifolia
Frageria chiloensis
Holodiscus discolor
Malus fusca
Potentilla palustris
Potentilla pacifica

western serviceberry
coast strawberry
ocean-spray
western crabapple
marsh cinquefoil
Pacific silverweed
thimbleberry
salmonberry
blackberry
red burnet
Douglas' spiraea

Rubus spectabilis
Rubus ursinus
Sanguisorba tnicrocephala
Spiraea douglasii

FABACEAE - pea family

Cytisusmonospessulanus
Cytisus scoparius
Lathyrus sp.
Lotus arnericanus
Lotus corniculatus
Lotus fortnosissirnus
Lupinus littorallis
Melilotus alba
Trifoliutn sp.
Ulex europaeus
Vicia sp.

French broom
Scot's broom
peavine
Spanish-pea
bird's-foot trefoil
bicolored vetch
beach lupine
white sweet-clover
clovers
gorse
vetch

ONAGRACEAE - evening-primrose family

Camissonia chieranthifolia
Epilobium fransiscanum
Oenothera erthyrosepala

beach evening-primrose
willow-herb
red evening-primrose

GARRYACEAE - silk-tassel family

Garrya elliptica

silk-tassel

RHAMNACEAE - buckthom family

Rhamnus purshiana

cascara

<u>Scientific Family Name</u>	<u>Common Name</u>
LINACEAE - flax family <i>Linum angustifolium</i>	narrow-leaved flax
GERANIACEAE - geranium family <i>Erodium cicutarium</i> <i>Geranium dissectum</i>	filaree cut-leaf geranium
APIACEAE - parsley family <i>Angelica hendersonii</i> <i>Glehnia leiocarpa</i> <i>Hydrocotyle verticillata*</i> <i>Heracleum lanatum</i> <i>Lilaeopsis occidentalis</i> <i>Oenanthe sarmentosa</i> <i>Sanicula arctopoides</i>	beach angelica small wild carrot american glehnia marsh penny wort cow parsnip lilaeopsis Pacific oenanthe beach sanicle
GENTIANACEAE - gentian family <i>Centaurium umbellatum</i> <i>Gentiana sceptrum</i> <i>Microcala quadrangularis*</i>	centaury staff gentian timwort
CONVOLVULACEAE - morning-glory family <i>Convolvulus soldanella</i>	beach morning-glory
CUSCUTACEAE - dodder family <i>Cuscuta salina var. major</i>	salt marsh dodder
MENYANTHACEAE - buckbean family <i>Menyanthes trifoliata</i>	buckbean
POLEMONIACEAE - phlox family <i>Gilia capitata</i> <i>Linanthus sp.</i> <i>Navarretia squarrosa</i>	linanthus skunkweed
HYDROPHYLLACEAE - waterleaf family <i>Phacelia argentea*</i>	silvery phacelia
BORAGINACEAE - borage family <i>Myosotis discolor</i>	forget-me-not
LAMIACEAE - mint family <i>Lamium purpureum</i> <i>Prunella vulgaris</i>	hen-bit self-heal
CALLITRICHEACEAE - water-starwort family <i>Callitriche sp.</i>	water starwort

Appendix C - Plant Species

Scientific Family Name

Common Name

PLANTAGINACEAE - plantain family

Plantago hookeriana
Plantago juncooides

plantain
Hooker's plantain
seaside plantain

SCROPHULARIACEAE - figwort family

Castilleja litoralis
*Orthocarpus castillejooides**
Orthocarpus erianthus var. graciosus
Veronica scutellata

Pacific paintbrush
paintbrush owl-clover
Johnny tuck
skull-cap Veronica

OROBANCHEACEAE - broom-rape family

Boschniakia strobilacea

ground cone

LENTIBULARIACEAE - bladder-wort family

Utricularia sp.

bladderwort

RUBIACEAE - madder family

Galium sp.

bedstraw

CAPRIFOLIACEAE - honeysuckle family

Lonicera hispidula
Lonicera involucrata

viney honeysuckle
black twinberry

ASTERACEAE - sunflower family

Achillea millefolium
Anaphalis tnargaritacea
Antherniscotula
Artemisia pycnocephala
Aster chilensis
Baccharis pilularis
Bellis perennis
Chrysanthemum leucothecum
Cirsium acanthodontum
Cirsium arvensis
Conzya canadensis
*Corethrogyne californica var. obovata**
Cotula coronopilis
Erechtites prenanthoides
Erigeron glaucus
Franseria chatnissonis ssp. chamissonis
Franseria charnissonis ssp. bipinnatisecta
Gnaphalium chilense
Gnaphalium purpureum
Grindelia stricta

yarrow
pearly everlasting
dog fennel
beach sagewort
Chilean aster
coyote broom
lawn daisy
oxe-eye daisy
Klamath thistle
Canada thistle
conzya
California beach-aster
brass-buttons
fiieweed
beach daisy
burweed
burweed
cotton-batting platn
cudweed
gumweed
white flowered hawkweed
cat's-ear
hawkbit
pineapple weed
micropus

Hypochaeris radicata
Leontodon leyesseri
Matricaria matricarioides

<u>Scientific Family Name</u>	<u>Common Name</u>
<i>Senecio jacobea</i>	tansy ragwort
<i>Solidago canadensis</i> var. <i>elongata</i>	golden rod
<i>Sonchus</i> sp.	sow thistle
<i>Tanacetum douglasii</i>	dune tansy
<i>Taraxacum officinale</i>	dandelion
POTOMOGETONACEAE	
<i>Potamogeton natans</i>	pondweed
<i>Potamogeton richardsonii</i>	Richardson's pondweed
ARACEAE - arum family	
<i>Lysichitum americanum</i>	American skunk-cabbage
JUNCACEAE - rush family	
<i>Juncus bufonis</i>	toadrush
<i>Juncus effusus</i>	common rush
<i>Juncus falcatus</i>	sickle-leaved rush
<i>Juncus leseuerii</i>	salt rush
<i>Luzula</i> sp.	wood rush
CYPERACEAE - sedge family	
<i>Carex obnupta</i>	slough sedge
<i>Carex lyngbyei</i>	Lyngbye's sedge
<i>Carex macrocephala</i>	large headed sedge
<i>Carex pansa</i>	sand-dune sedge
<i>Carex viridula</i>	green sedge
<i>Dulichium arundinaceum</i> *	dulichium
<i>Eleocharis macrostachya</i>	creeping spike-rush
<i>Eleocharis</i> sp.	spike-rush
<i>Eriophorum chamissonis</i> *	russet cotton-grass
<i>Scirpus acutus</i>	bulrush
<i>Scirpus olneyi</i>	Olney's bulrush
<i>Scirpus validum</i>	softstem bulrush
POACEAE - grass family	
<i>Agrostis</i> sp.	bentgrass
<i>Aira caryophylla</i>	hairgrass
<i>Aira praecox</i>	hairgrass
<i>Ammophila arenaria</i>	european beachgrass
<i>Anthoxanthum odoratum</i>	vernalgrass
<i>Brixa maxima</i>	rattlesnake grass
<i>Bromus</i> sp.	brome
<i>Calamagrostis nutkaensis</i>	Pacific reedgrass
<i>Cynosurus echinatus</i>	dogtail
<i>Danthonia californica</i>	California oatgrass
<i>Deschampsia cespitosa</i>	tufted hairgrass
<i>Distichilis spicata</i>	saltgrass
<i>Elymus mollis</i>	American dune grass
<i>Festuca</i> spp.	Fescue
<i>Holcus lanatus</i>	velvetgrass

Appendix C - Plant Species

Scientific Family Name

Common Name

Koeleria cristata
Lolium sp.
Panicum occidentale
Phalaris arundinacea
Poa macrantha

Koeler's grass
ryegrass
panic grass
reed canary grass
seaside bluegrass

SPARGANIACEAE - bur-reed family

Sparganium emersum var. *emersum*

simplestem bur-reed

TYPHACEAE - cat-tail family

Typha latifolia

cat-tail

LILIACEAE - lily family

Calochortus tolmiei
*Lilium occidentale**
Lilium columbianum
Maianthemum dilatatum
Smilacina stallata
Tofieldia glutinosa ssp. *glutinosa**
Trillium ovatum
Zigadenus fremontii

cat's ears
western lily
tiger lily
false lily-of-valley
false soloman's seal
sticky tofieldia
western trillium
Fremont's death camas

IRIDACEAE - iris family

Iris douglasiana
Olysnium angustifolium
Sisyrinchium californicum

Douglas' iris
blue-eyed grass
yellow-eyed grass

ORCHIDACEAE - orchid family

Goodyera oblongifolia
Habenaria greenei
Spiranthes romanzoffiana

rattlesnake plantain
Greene's rein-orchid
ladies-tresses

NON-VASCULAR PLANTS (mosses, liverworts, lichens, etc.)

Depandocladrtoxanolatus
Sphagnum henryense
Sphagnum mendocinum
Sphagnum subnitens
Stokesiella oregana

* Special status plant species

Mushrooms Identified in New River ACEC

<u>Scientific Name</u>	<u>Common Name</u>
<i>Agaricus sequoiae</i>	redwood agaricus
<i>Amanita aspera</i>	yellow veiled amanita
<i>Amanita muscaria</i>	fly agaric
<i>Amanita</i> spp.	n/a
<i>Armillaria ponderosa</i>	matsutake
<i>Boletus edulis</i>	king bolete
<i>Boletus subtomentosus</i>	boring brown bolete
<i>Calocera cornea</i>	n/a
<i>Cantherellus cibarius</i>	chantrelle
<i>Cantherellus xanthopus</i>	winter chantrelle
<i>Clavulina cinerea</i>	coral mushroom
<i>Collybia butyracea</i>	buttery collybia
<i>Cortinarius cotoneus</i>	scaly cortinarius
<i>Cortinarius mucosus</i>	slimy cortinarius
<i>Cortinarius phoeniceus</i> var. <i>occidentalis</i>	n/a
<i>Hydnellum scrobiculatum</i> var. <i>zonatum</i>	rough hedge-hog
<i>Hygrocybe conica</i>	witch's-cap
<i>Hygrophoropsis aurantiaca</i>	false chantrelle
<i>Laccaria laccata</i>	lackluster laccaria
<i>Lactarius deliciosus</i>	orange latex milky cap
<i>Lactarius</i> spp.	n/a
<i>Leccinium ponderosum</i>	n/a
<i>Mycena murina</i>	n/a
<i>Naematoloma fasciculare</i>	sulfur tuft
<i>Otidea leporina</i>	yellow rabbit ears
<i>Rhizopogon occidentalis</i>	false truffle
<i>Russula cremoricolor</i>	creamy russula
<i>Russula fragilis</i>	fragile russula
<i>Russula roseacea</i>	rosy russula
<i>Russula sororia</i>	comb russula
<i>Strobilurus trullisatus</i>	n/a
<i>Suillus brevipes</i>	short-stemmed slippery-jack
<i>Suillus granulatus</i>	granulated slippery-jack
<i>Suillus occidentalis</i>	western slippery-jack
<i>Suillus tomentosus</i>	blue-staining slippery-jack
<i>Suillus umbonatus</i>	umbonate slippery-jack
<i>Suillus</i> spp.	n/a
<i>Tricholoma flavovirens</i>	man-on-horseback
<i>Tricholoma zelleri</i>	fetid trich

These species are from preliminary surveys conducted in the fall of 1992. Species identifications have not been verified from any mycologist.

APPENDIX D

WILDLIFE SPECIES IN THE NEW RIVER AREA

BIRDS - This list was compiled from **actual observations** (visual sightings and song identification) of species from several references. This list is intended to be representative and may not show all species which have occurred in the past or which may occur in the future. Updated bird sightings from the public may be reported to this BLM office.

Gaviidae

Red-throated Loon (*Gavia stellata*)
Pacific Loon (*Gavia pacifica*)
Common Loon (*Gavia immer*)

Podicipedidae

Pied-billed Grebe (*Podilymbus podiceps*)
Horned Grebe (*Podiceps auritus*)
Red-necked Grebe (*Podiceps grisegena*)
Western Grebe (*Aechmophorus occidentalis*)

Pelicanidae

Brown Pelican (*Pelecanus occidentalis*)

Phalacrocoracidae

Double-crested Cormorant (*Phalacrocorax auritus*)
Brant's Cormorant (*Phalacrocorax penicillatus*)
Pelagic Cormorant (*Phalacrocorax pelagicus*)

Ardeidae

American Bittern (*Botaurus lentiginosus*)
Great Blue Heron (*Ardea herodias*)
Great Egret (*Casmerodius albus*)
Snowy Egret
Cattle Egret (*Bulbulcus ibis*)
Green Heron (*Butorides striatus*)

Anatidae

Tundra Swan (*Cygnus columbianus*)
Brant (*Branta bennicla*)
Snow Goose (*Chen caerulescens*)
Canada Goose (*Branta canadensis*)
 Subspecies include:
 Taverners Canada Goose (sub spp. *taverneri*)
 W. Canada Goose (sub spp. *moffitti*)
 Crackler Canada Goose (sub spp. *minima*)
 Aleutian Canada Goose (sub spp. *leucopareia*)
Wood Duck (*Aix sponsa*)
Green-winged Teal (*Anas crecca*)

Mallard (*Anas platyrhynchos*)
N.
Blue-winged Teal
Cinnamon Teal (*Anas cyanoptera*)
N. Shoveler (*Anas clypeata*)
Gadwall (*Anas strepera*)
Eurasian Wigeon (*Anas penelope*)
American Wigeon (*Anas americana*)
Canvasback (*Aythya valisineria*)
Redhead (*Aythya americana*)
Ring-necked Duck (*Aythya collaris*)
Greater Scaup (*Aythya myrila*)
Oldsquaw (*Clangula hyemalis*)
Surf Scoter (*Melanitta perspicillata*)
White-winged *fusca*
Common Goldeneye (*Bucephala clangula*)
Bufflehead (*Bucephala albeola*)
Hooded Merganser (*Lophodytes cucullatus*)
Common Merganser (*Mergus merganser*)
Red-breasted Merganser (*Mergus serrator*)
Ruddy Duck (*Oxyura jamaicensis*)

Cathartidae

Turkey Vulture (*Carthartes aura*)

Accipitridae

Osprey (*Pandion haliaetus*)
White-tailed Kite (*Elanus caeruleus*)
Bald Eagle (*Haliaeetus leucocephalus*)
Northern Harrier (*Circus cyaneus*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperii*)
Red Shouldered Hawk (*Buteo lineatus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Rough-legged Hawk (*Buteo lagopus*)

Falconidae

American Kestrel (*Falco sparverius*)

Appendix D - Birds

Merlin (*Falco columbarius*)
Peregrine Falcon (*Falco peregrinus*)

Phasianidae

Ringnecked Pheasant (*Phasianus colchicus*)
California Quail (*Callipepla californica*)

Raillidae

Virginia Rail (*Rallus limicola*)
Sora (*Porzana Carolina*)
American Coot (*Fulica americana*)

Charadriidae

Blackbellied Plover (*Pluvialis squatarola*)
American Golden Plover (*Pluvialis dominica*)
Pacific Golden Plover (*Pluvialis fulva*)
W. Snowy Plover (*Charadrius alexandrinus nivosus*)
Semipalmated Plover (*Charadrius semipalmatus*)
Killdeer (*Charadrius vociferus*)

Haematopodidae

Black Oystercatcher (*Haematopus bachmani*)

Scolopacidae

Greater Yellowlegs (*Tringa melanoleuca*)
Lesser Yellowlegs (*Tringa flavipes*)
Solitary Sandpiper (*Tringa solitaria*)
Willet (*Catoptrophorus semipalmatus*)
Spotted Sandpiper (*Actitis macularia*)
Whimbrel (*Numenius phaeopus*)
Long-billed Curlew (*Numenius americanus*)
Marbled *fedoa*
Ruddy Turnstone (*Arenaria interpres*)
Black Turnstone (*Arenaria melanocephala*)
Red Knot
Sanderling (*Calidris alba*)
Western Sandpiper (*Calidris mauri*)
Least Sandpiper (*Calidris minutilla*)
Pectoral Sandpiper (*Calidris melanotos*)
Dunlin (*Calidris alpina*)
Buff-breasted Sandpiper
Short-billed Dowitcher (*Limnodromus griseus*)
Long-billed Dowitcher (*Limnodromus scolopaceus*)
Common Snipe (*Gallinago gallinago*)
Red-necked Phalarope (*Phalaropus lobatus*)

Laridae

Parasitic Jaeger (*Stercorarius parasiticus*)
Bonaparte's Gull (*Larus Philadelphia*)
Heermann's Gull (*Lams Heermanni*)
Mew Gull (*Lams canus*)
Ring-billed Gull (*Larus delawarensis*)

California Gull (*Larus californicus*)
Herring Gull (*Larus argentatus*)
Western Gull (*Larus occidentalis*)
Glaucous-winged Gull (*Larus glaucescens*)
Black-legged Kittiwake (*Rissa tridactyla*)
Caspian Tern (*Sterna caspia*)

Alcidae

Common Murre (*Uria aalge*)
Pigeon Guillemont (*Cepphus columba*)
Cassin's Auklet (*Ptychoramphus aleuticus*)
Rhinceros Auklet (*Cerorhinca monocerata*)
Tufted Puffin

Columbidae

Rock Dove (*Columba livia*)
Bandtailed Pigeon (*Columba fasciata*)
Mourning Dove (*Zenadia macroura*)

Strigidae

W. Screech-Owl (*Otus kennicottii*)
Great-horned Owl (*Bubo virginianus*)
Burrowing Owl (*Athene cunicularia*)
Short-eared Owl (*Asio flammeus*)

Caprimulgidae

Common Nighthawk (*Chordeiles minor*)

Apodidae

Black Swift (*Cypseloides niger*)
Vaux's Swift (*Chaetura vauxi*)

Trochilidae

Black-chinned Hummingbird (*Archilochus alexandri*)
Anna's Hummingbird (*Calypte anna*)
Rufous Hummingbird (*Selasphorus rufus*)
Allen's Hummingbird (*Selasphorus sasin*)

Alcedinidae

Belted Kingfisher (*Ceryle alcyon*)

Picidae

Downy Woodpecker (*Picoides pubescens*)
Hairy Woodpecker (*Picoides villosus*)
Northern Flicker (*Colaptes auratus*)

Tyrannidae

Olivesided Flycatcher (*Contopus borealis*)
Western Wood-pewee (*Contopus sordidulus*)
Willow Flycatcher
Dusky Flycatcher (*Empidonax oberholseri*)
Black Phoebe (*Sayornis nigricans*)
Ash-throated Flycatcher (*Myiarchus cinerascens*)

Alaudidae

Homed Lark (*Eremophila alpestris*)

Hirundinidae

Purple Martin (*Progne subis*)
 Tree Swallow (*Tachycineta bicolor*)
 Violet-green Swallow (*Tachycineta thalassina*)
 N. Rough-winged Swallow (*Stelgidopteryx serripennis*)
 Bank Swallow (*Riparia riparia*)
 Cliff Swallow (*Hirundo pyrrhonota*)
 Barn Swallow (*Hirundo rustica*)

Corvidae

Steller's Jay (*Cyanocitta stelleri*)
 American Crow (*Corvus brachyrhynchos*)
 Common Raven (*Corvus corax*)

Paridae

Black-capped Chickadee (*Parus atricapillus*)
 Chestnut-backed Chickadee (*Parus rufescens*)

Aegithalidae

Bushtit (*Psaltriparus minimus*)

Sittidae

Red-breasted Nuthatch (*Sitta canadensis*)

Troglodytidae

Bewick's Wren (*Thryomanes bewickii*)
 House Wren (*Troglodytes aedon*)
 Winter Wren (*Troglodytes troglodytes*)
 Marsh Wren (*Cistothorus palustris*)

Muscicapidae

Golden-crowned Kinglet (*Regulus satrapa*)
 Ruby-crowned Kinglet (*Regulus calendula*)
 Swainson's Thrush (*Catharus ustulatus*)
 Hermit Thrush (*Catharus guttatus*)
 American Robin (*Turdus migratorius*)
 Varied Thrush (*Ixoreus naevius*)
 Wrentit

Mimidae

Northern Mockingbird (*Mimus polyglottos*)
 Brown thrasher (*Toxostoma rufum*)

Motacillidae

American *rubescens*)

Bombycillidae

Cedar Waxwing (*Bombycilla cedrorum*)

Sturnidae

Starling (*Sturnus vulgaris*)

Vireonidae

Hutton's Vireo (*Vireo huttoni*)

Emberizidae

Orange-crowned Warbler (*Vermivora celata*)
 Yellow Warbler (*Dendroica petechia*)
 Yellow-rumped Warbler
 Black-throated Gray Warbler (*Dendroica nigrescens*)
 Townsend's Warbler (*Dendroica townsendi*)
 Palm warbler
 MacGillivray's Warbler (*Oporomis tolmiei*)
 Common Yellow-throat (*Geothlypis trichas*)
 Wilson's Warbler (*Wilsonia pusilla*)
 Black-headed Grosbeak (*Pheucticus melanocephalus*)
 Rufous-sided Towhee (*Pipilo erythrophthalmus*)
 Vesper Sparrow (*Poocetes gramineus*)
 Savannah Sparrow (*Passerculus sandwichensis*)
 Grasshopper Sparrow (*Ammodramus savannanun*)
 Fox Sparrow (*Passerella iliaca*)
 Song Sparrow (*Melospiza melodia*)
 Lincoln's Sparrow (*Melospiza lincolni*)
 White-throated Sparrow (*Zonotrichia albicollis*)
 Golden-crowned Sparrow (*Zonotrichia atricapilla*)
 White-crowned Sparrow (*Zonotrichia leucophrys*)
 Dark-eyed Junco (*Junco hyemalis*)
 Red-winged Blackbird (*Agelaius phoeniceus*)
 Western Meadowlark (*Sturnella neglecta*)
 Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)
 Brewer's Blackbird (*Euphagus cyanocephalus*)
 Brown-headed Cowbird (*Molothrus ater*)

Fringillidae

Purple Finch (*Carpodacus purpureus*)
 House Finch (*Carpodacus mexicanus*)
 Red Crossbill (*Loxia curvirostra*)
 Pine Siskin (*Carduelis pinus*)
 American Goldfinch (*Carduelis tristis*)

Passeridae

House Sparrow (*Passer domesticus*)

Appendix D - Mammals

MAMMALS - There have been no specific mammalian inventories on the New River ACEC. The following list includes actual and reported observations. Also, potential occupants, as suggested by range maps and other references are listed with an “*”. This list is believed to be current but additional species may be seen in the area.

Didelphidae

Virginia Opossum (*Didelphis virginianus*)

Soricidae

Vagrant Shrew (*Sorex vagrans*)

Trowbridge Shrew (*Sorex trowbridgii*)*

Pacific Shrew (*Sorex pacificus*)*

Talpidae

Shrew Mole (*Neurotrichus gibbsii*)*

Townsend Mole (*Scapanus townsendii*)*

Coast Mole (*Scapanus orarius*)*

Vespertilionidae

Little Brown Bat (*Myotis lucifugus*)*

Longeared

Hoary Bat (*Lasiurus cinereus*)*

Townsend’s Big-eared Bat (*Plecotus townsendii*)*

Leporidae

Brush Rabbit (*Sylvilagus bachmani*)

Sciuridae

California ground squirrel (*Spermophilus beecheyi*)

Townsend’s Chipmunk (*Eutamias townsendii*)*

W. gray squirrel (*Sciurus griseus*)

N. flying squirrel (*Glaucomys sabrinus*)

Geomyidae

W. Pocket Gopher (*Thomomys mazama*)

Castoridae

Beaver (*Castor canadensis*)

Cricetidae

Deer Mouse (*Peromyscus maniculatus*)

Long-tailed vole (*Microtus longicaudus*)

Townsend’s vole (*Microtus townsendii*)*

Creeping vole (*Microtus oregoni*)*

Bushy-tailed Woodrat (*Neotoma cinerea*)

Muskrat

Muridae

Norway Rat (*Rattus norvegicus*)*

Black Rat (*Rattus rattus*)*

House Mouse (*Mus musculus*)*

Zapodidae

Pacific jumping mouse

Erethizontidae

Porcupine (*Erethizon dorsatum*)

Canidae

Coyote

Red Fox (*Vulpes vulpes*)

Vrsidae

Black Bear (*Ursus americanus*)

Procyonidae

Raccoon (*Procyon lotor*)

Mustelidae

Long-tailed Weasel (*Mustela frenata*)

River Otter (*Lutra canadensis*)

Striped Skunk (*Mephitis mephitis*)

Mink (*Mustela vison*)

Felidae

Mountain Lion (*Felis concolor*)

Bobcat (*Lynx rufus*)

Cervidae

Blacktailed Deer (*Odocoileus hemionus columbianus*)

Roosevelt Elk (*Cervise elaphus roosevelti*)*

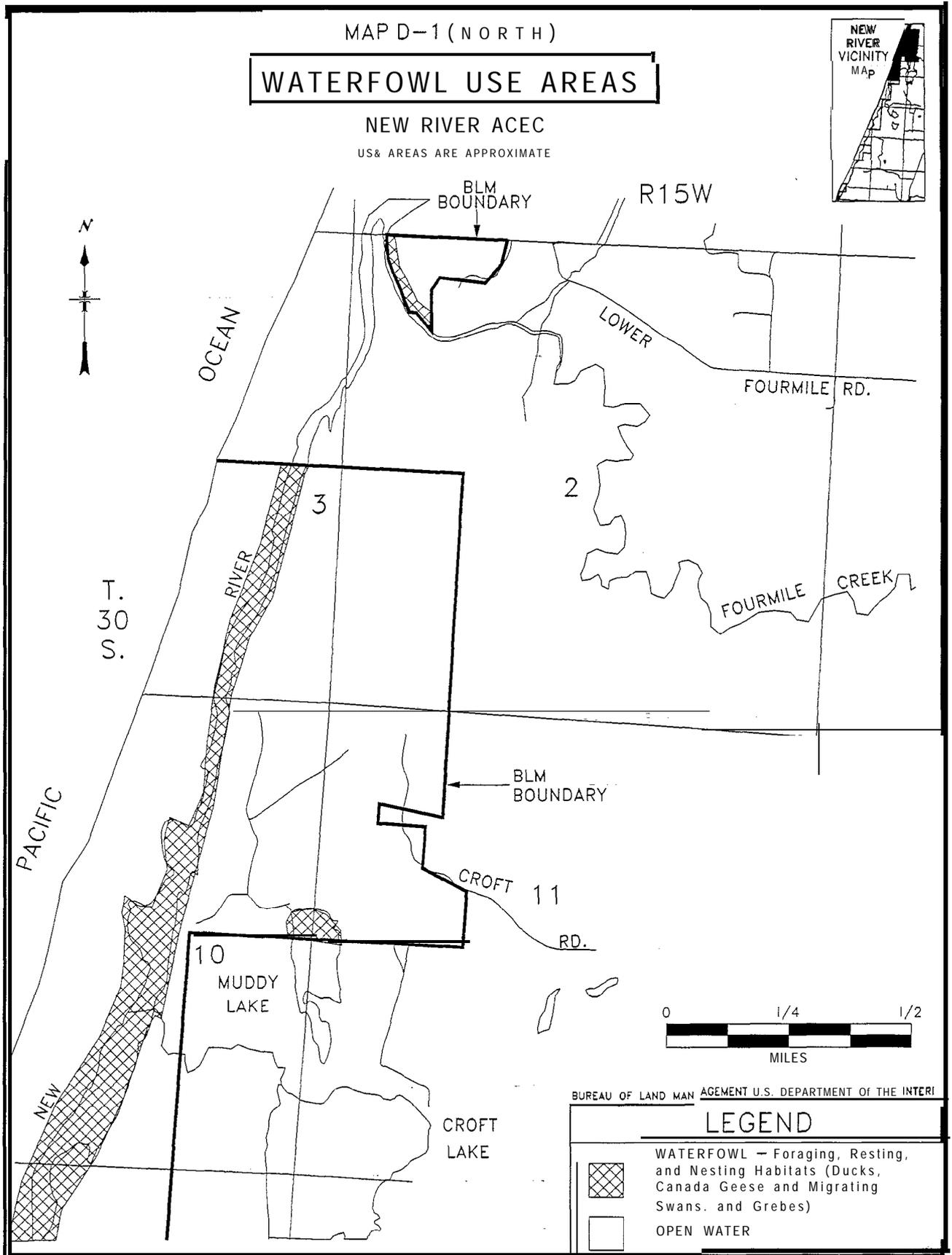
Phocidae

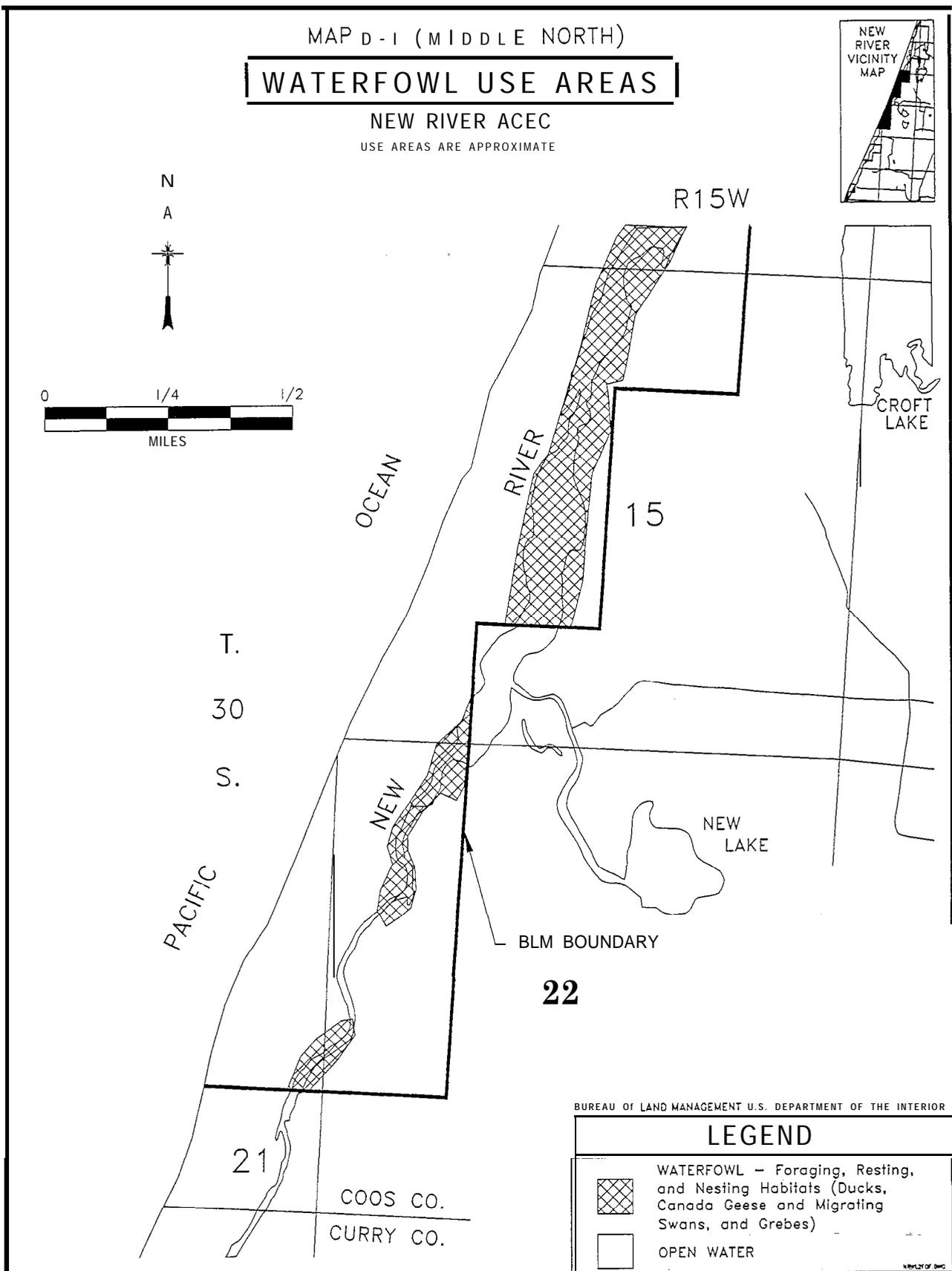
Harbor Seal (*Phoca vitulina*)

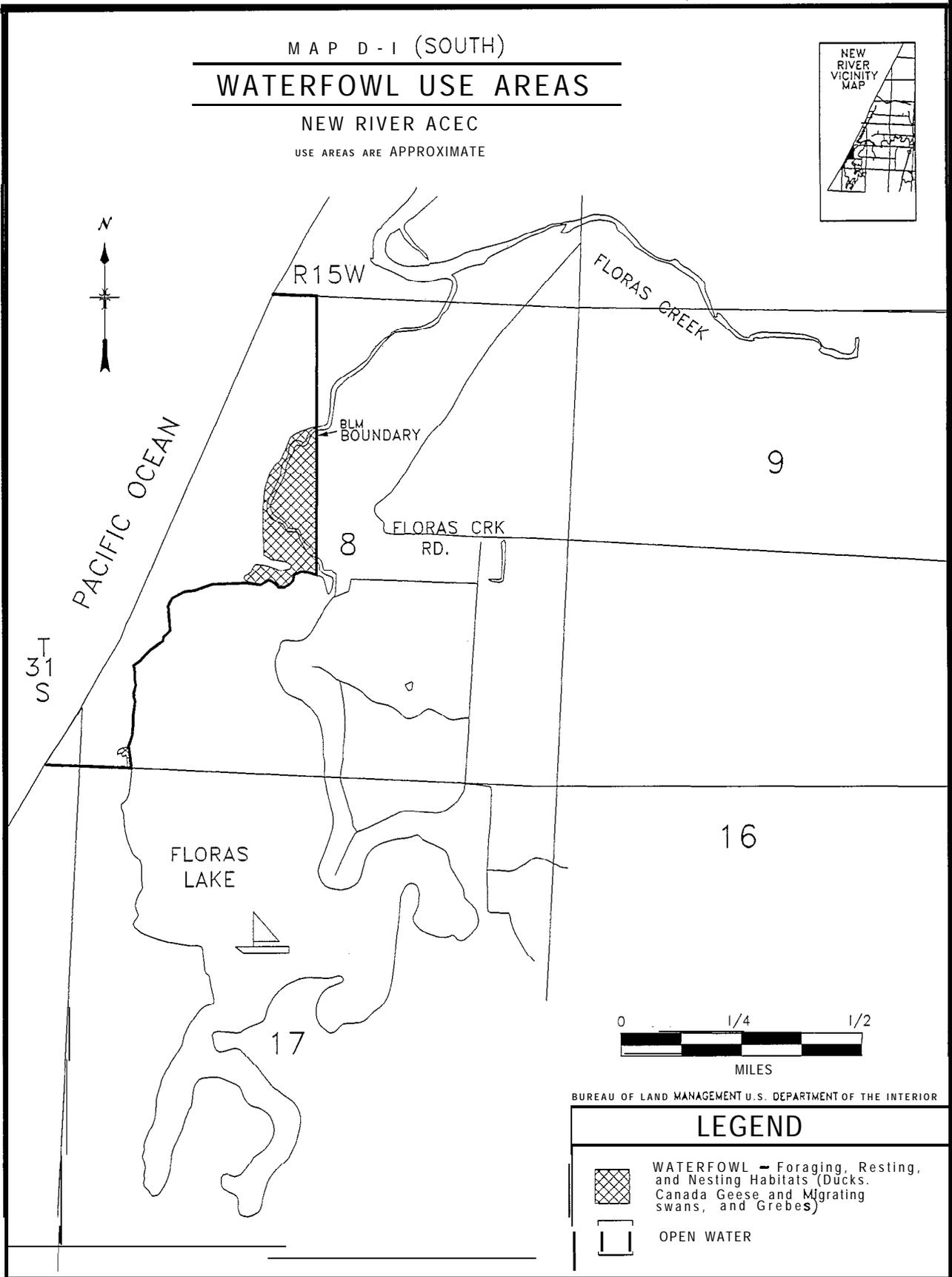
Otariidae

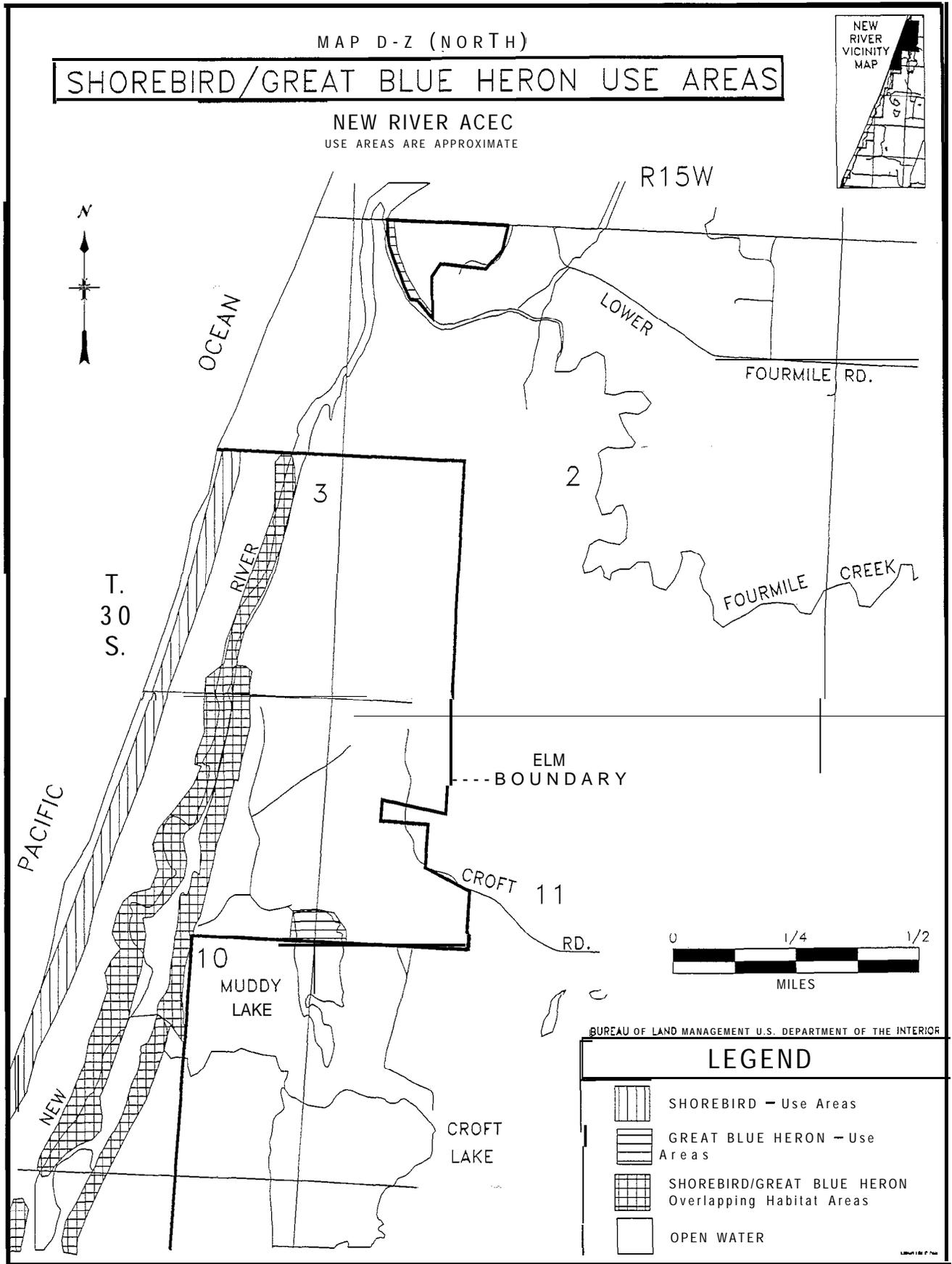
Stellar Sea Lion (*Eumetopias jubatus*)*

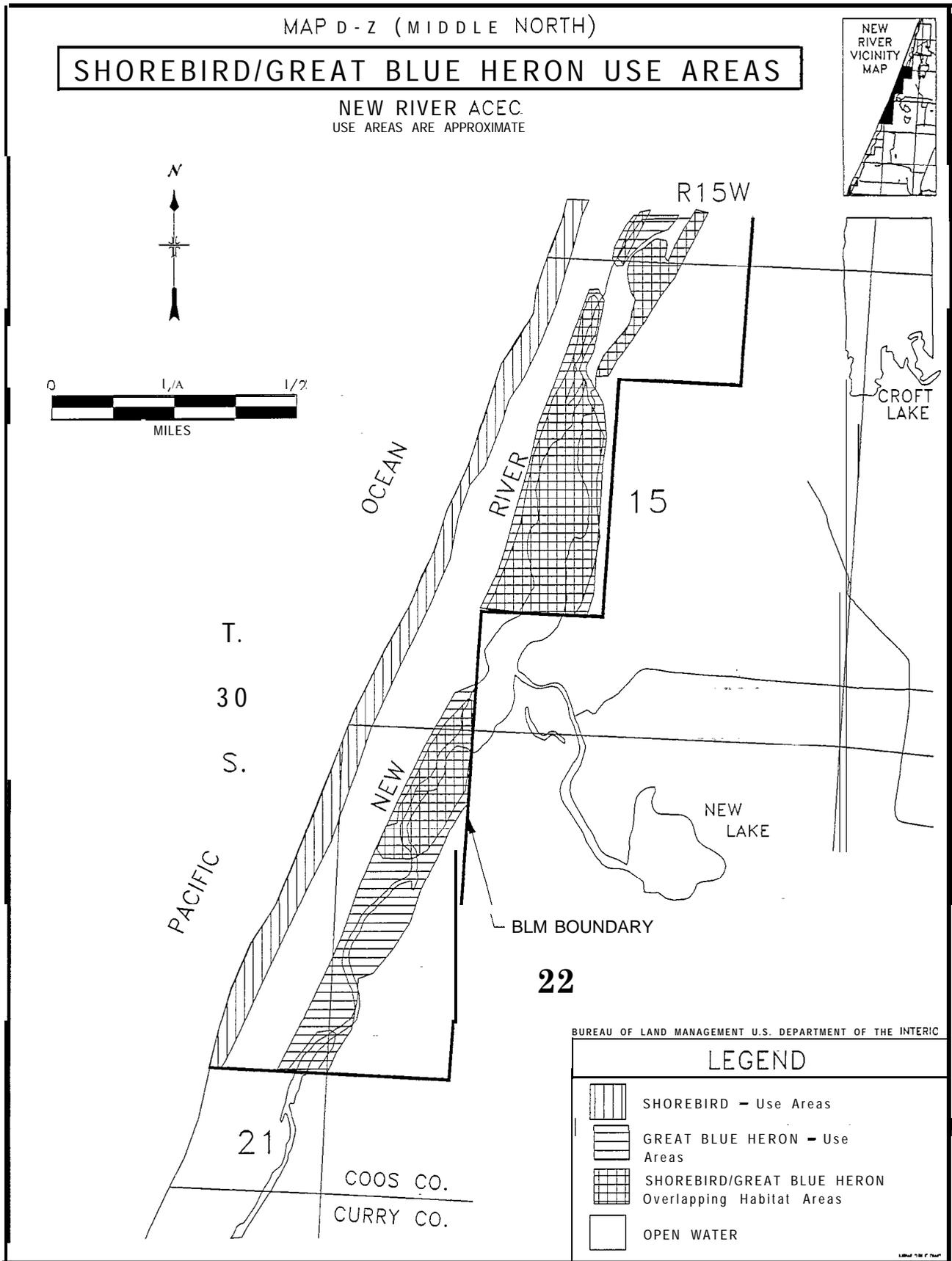
California Sea lion (*Zalophus californianus*)*

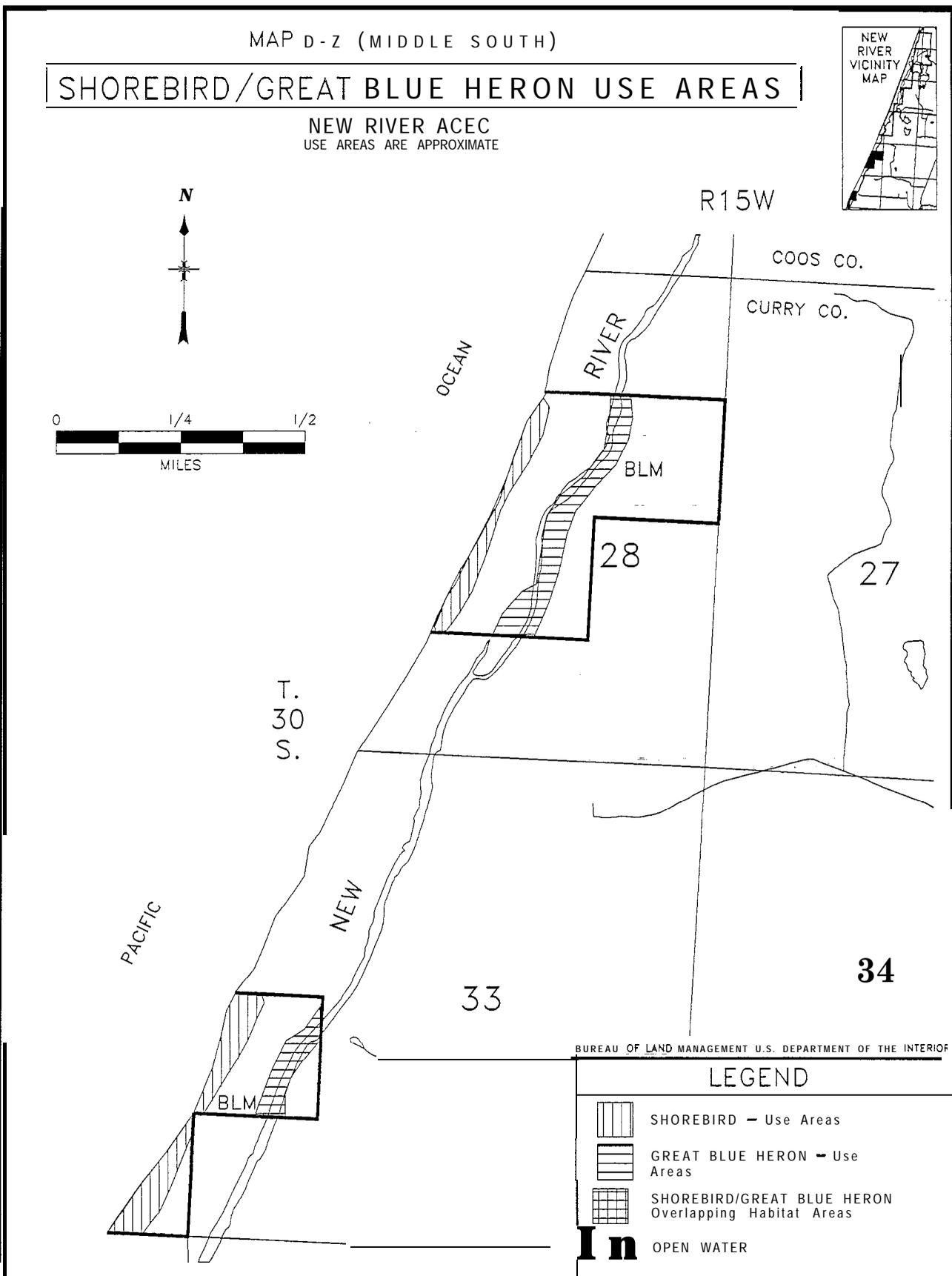


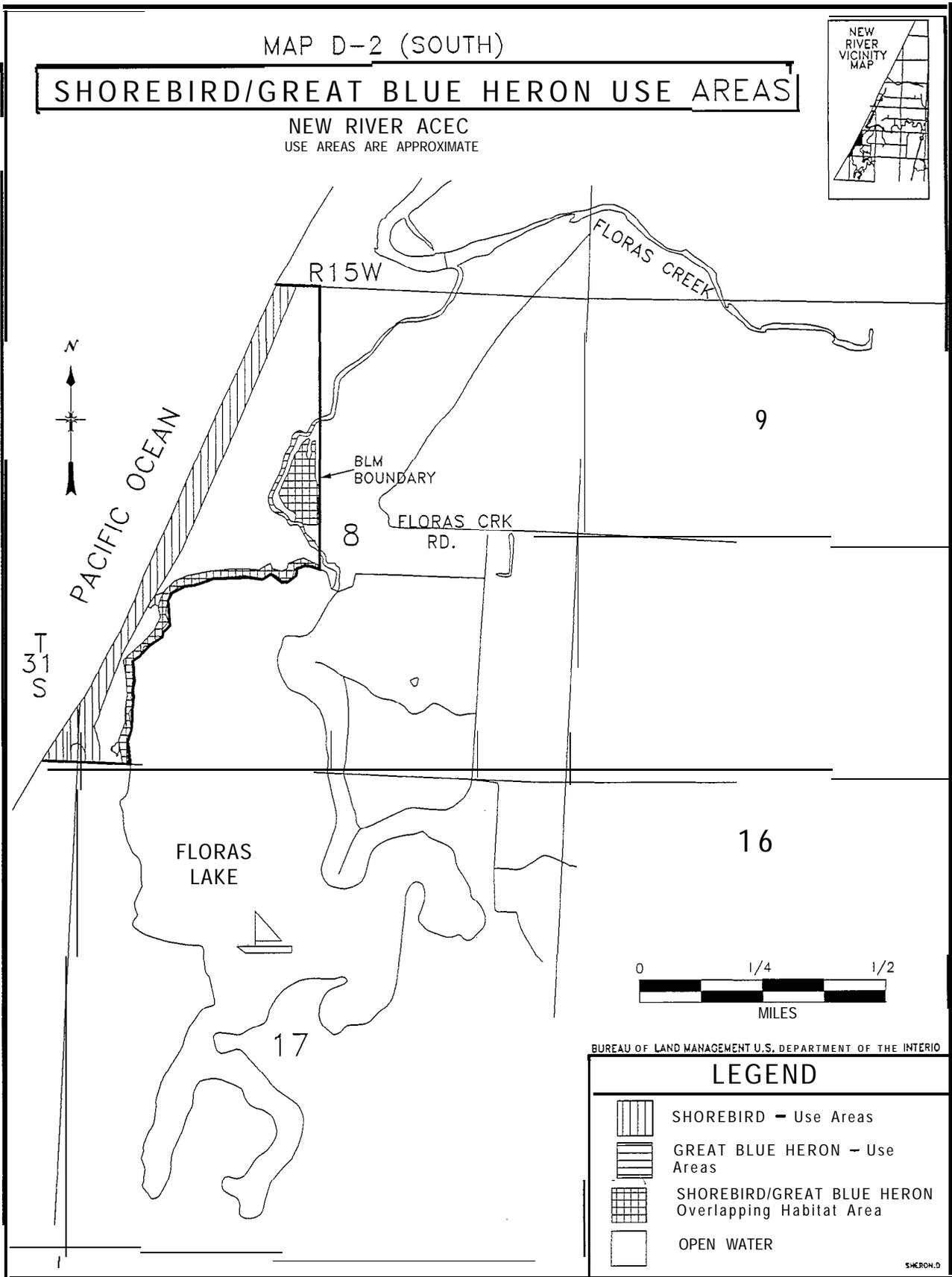


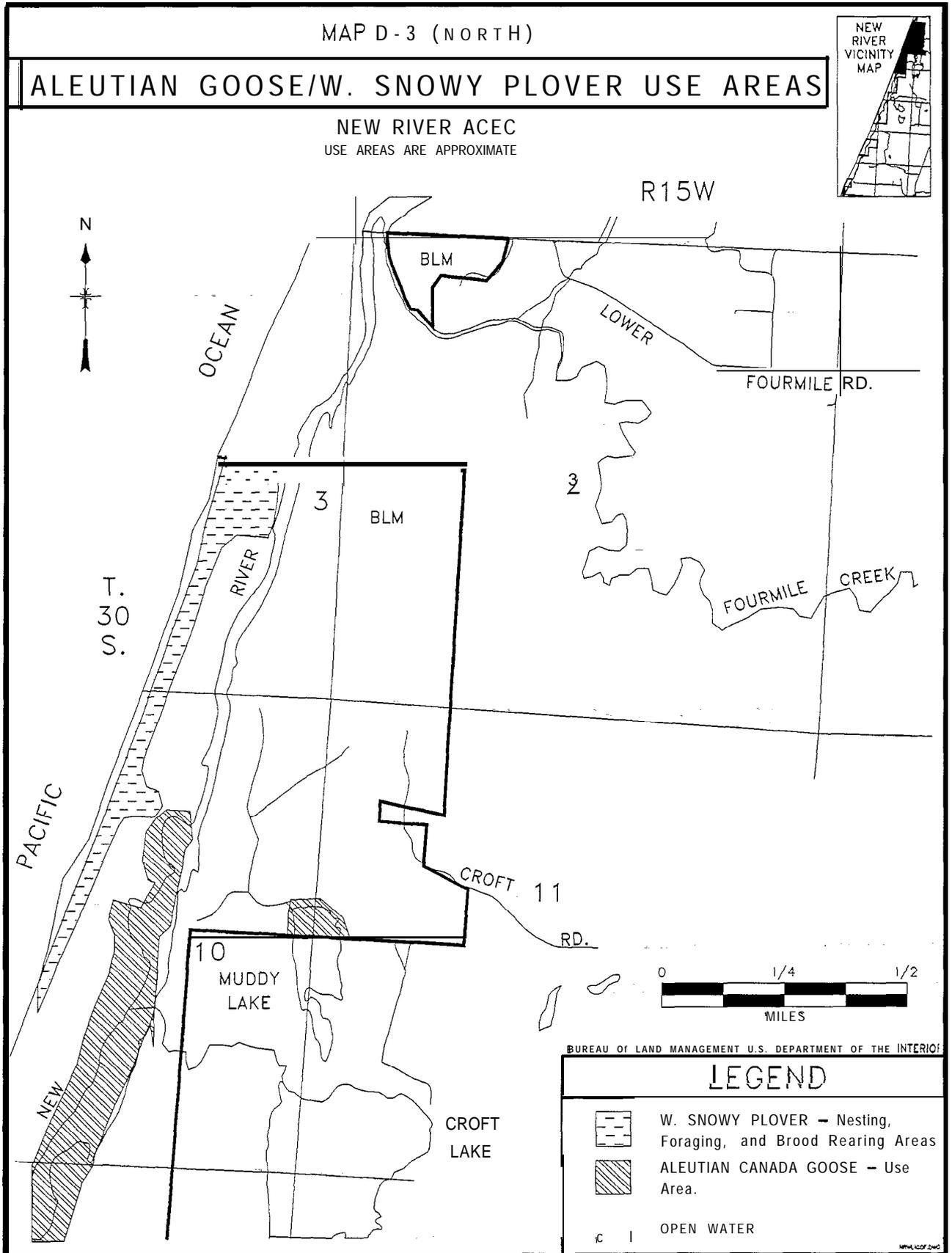








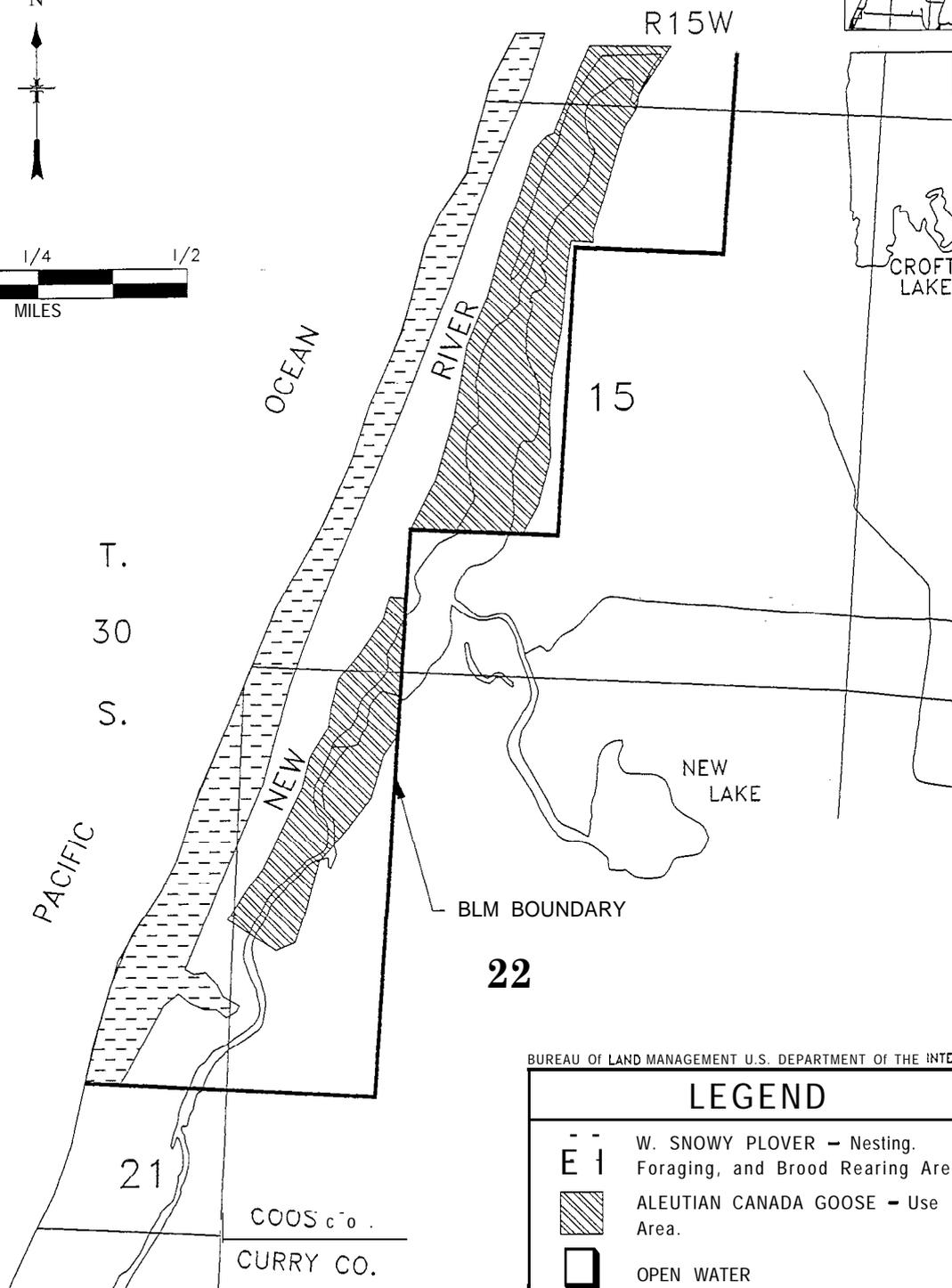
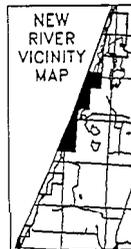




MAP D-3 (MIDDLE NORTH)

ALEUTIAN GOOSE/W. SNOWY PLOVER USE AREAS

NEW RIVER ACEC
USE AREAS ARE APPROXIMATE



BUREAU OF LAND MANAGEMENT U.S. DEPARTMENT OF THE INTERIOR

LEGEND

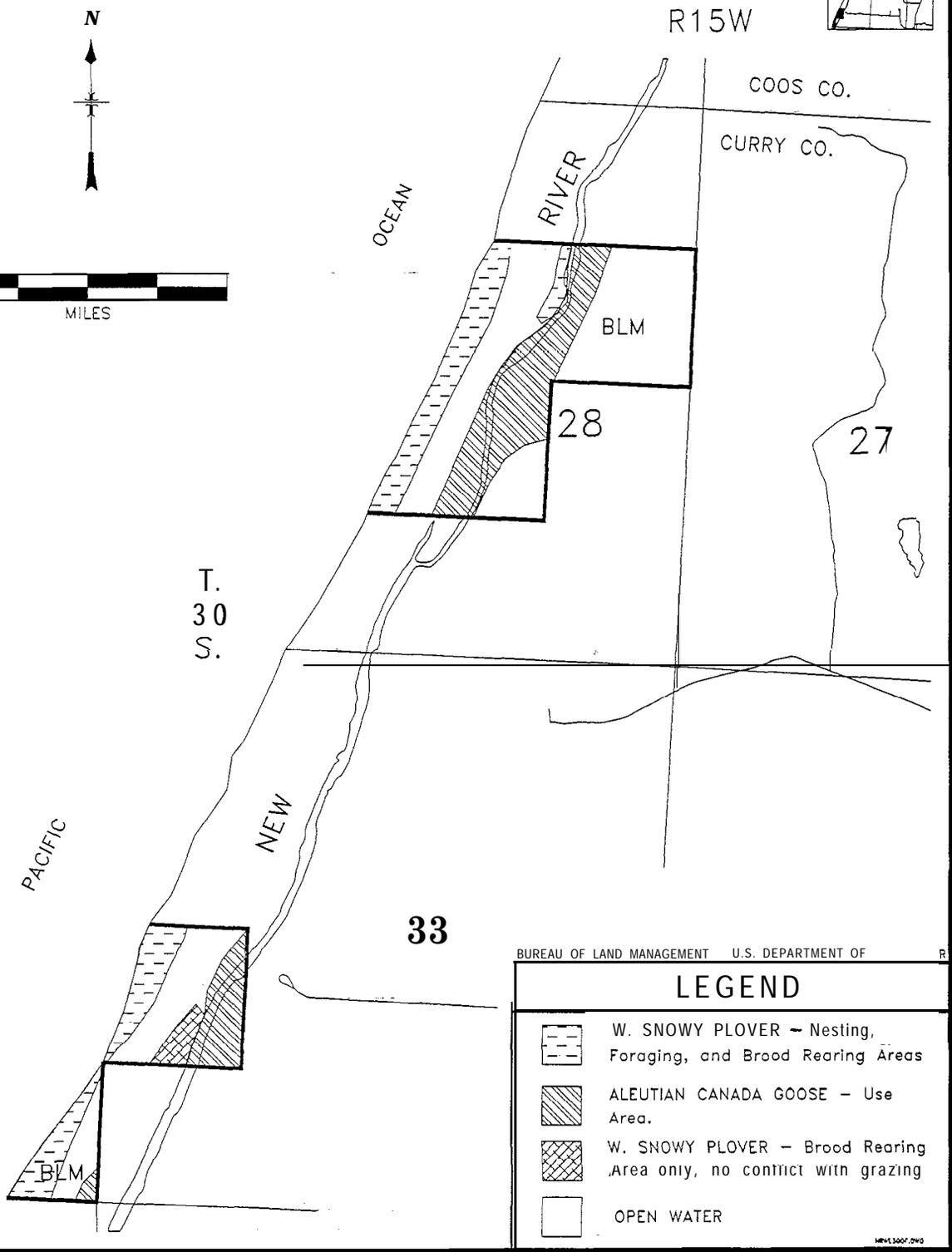
- W. SNOWY PLOVER - Nesting, Foraging, and Brood Rearing Area:
- ALEUTIAN CANADA GOOSE - Use Area.
- OPEN WATER

MAP D-3 OF D-16

MAP D-3 (MIDDLE SOUTH)

ALEUTIAN GOOSE/W. SNOWY PLOVER USE AREAS

NEW RIVER ACEC
USE AREAS ARE APPROXIMATE

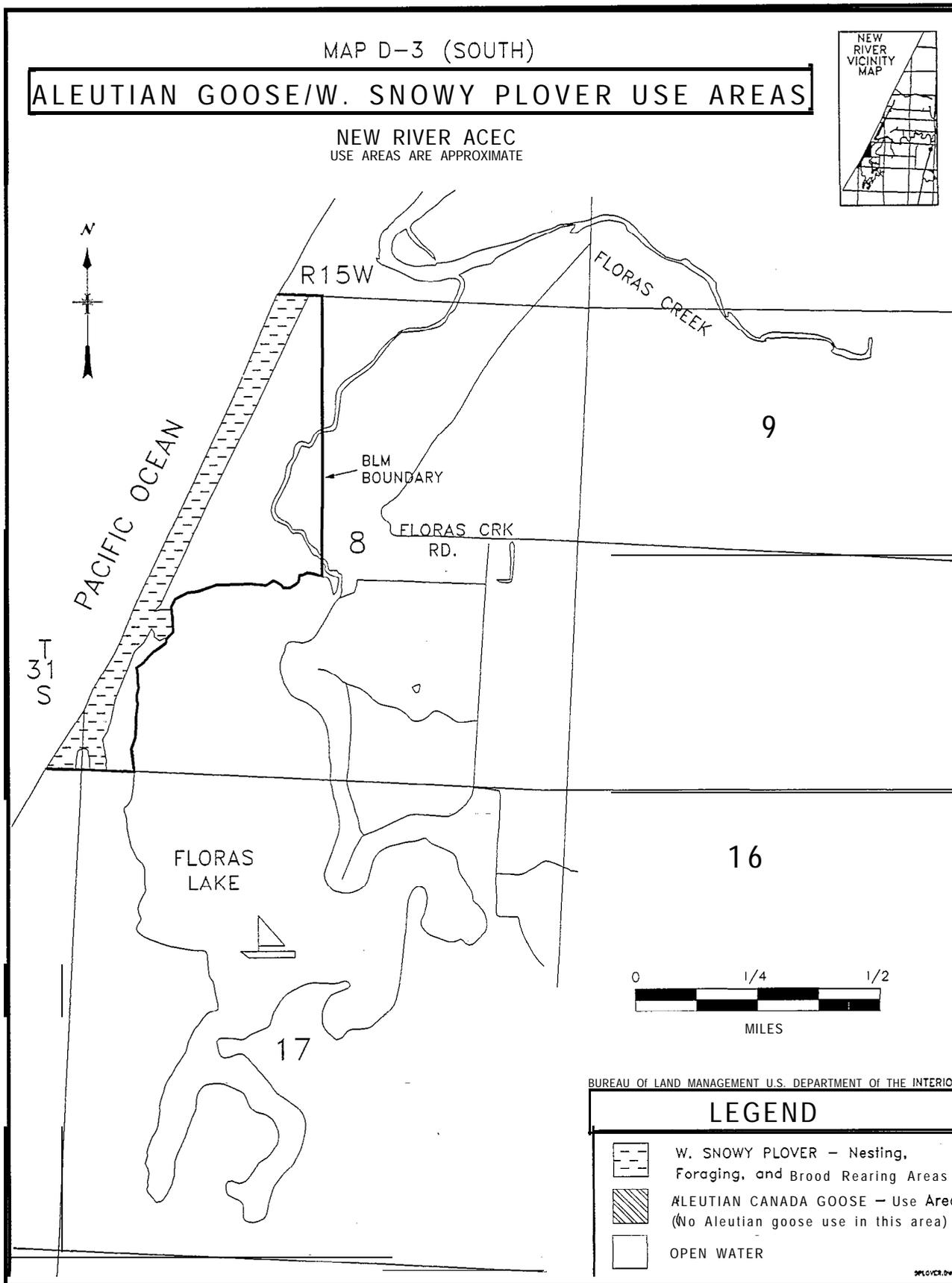


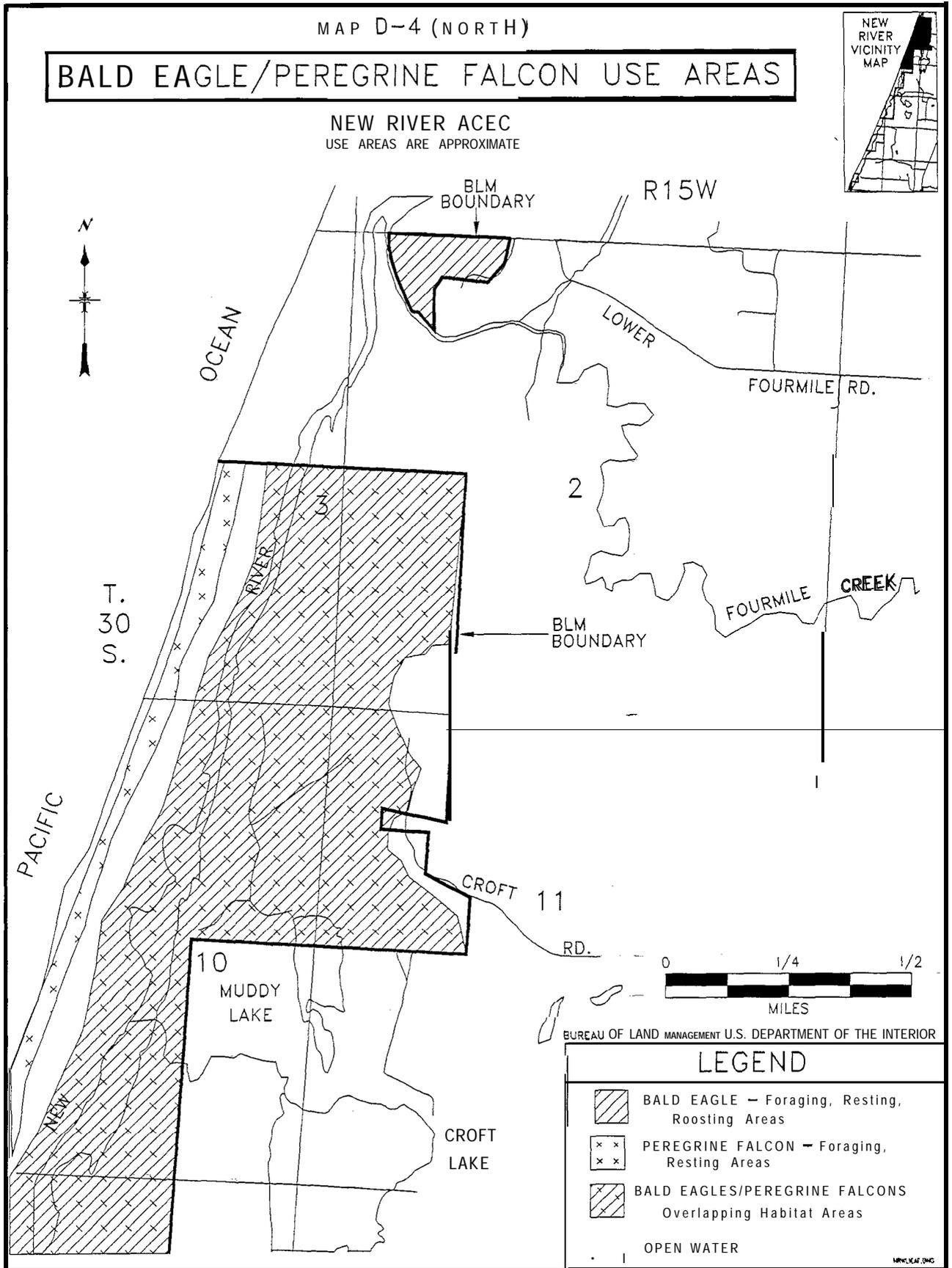
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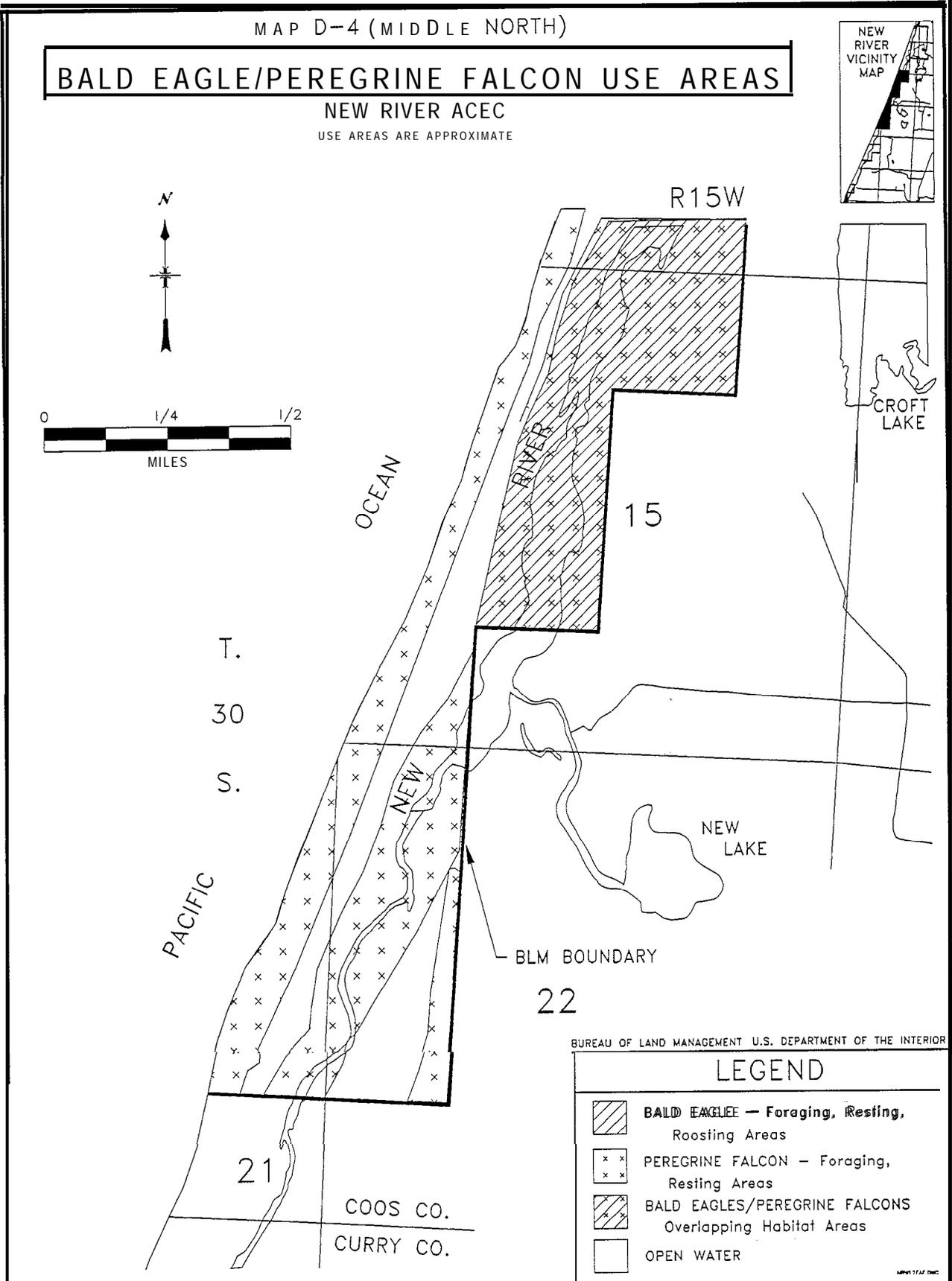
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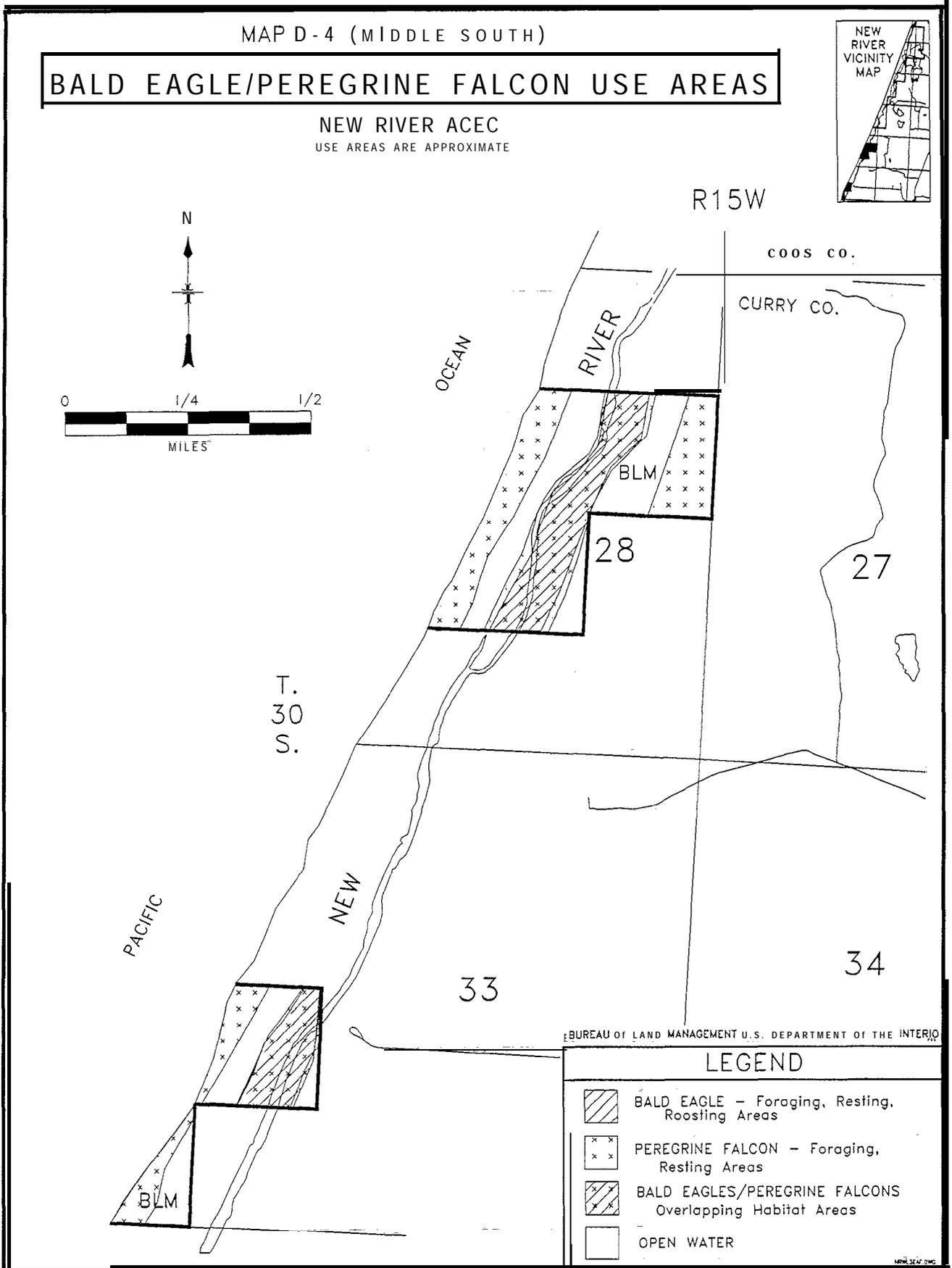
-  W. SNOWY PLOVER - Nesting, Foraging, and Brood Rearing Areas
-  ALEUTIAN CANADA GOOSE - Use Area.
-  W. SNOWY PLOVER - Brood Rearing Area only, no conflict with grazing
-  OPEN WATER

NEW13007.DWG





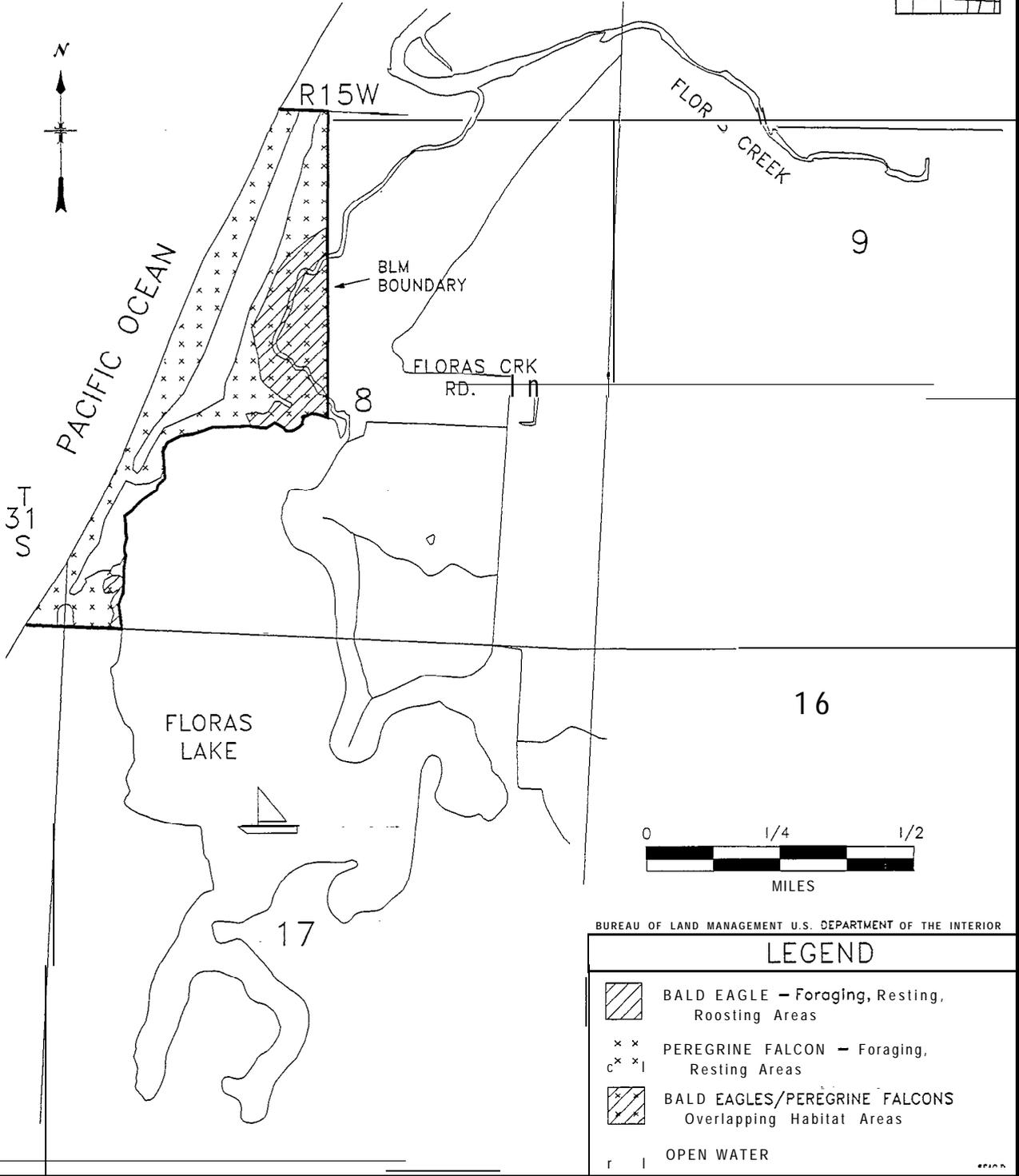




MAP D-4 (SOUTH)

BALD EAGLE/PEREGRINE FALCON USE AREAS

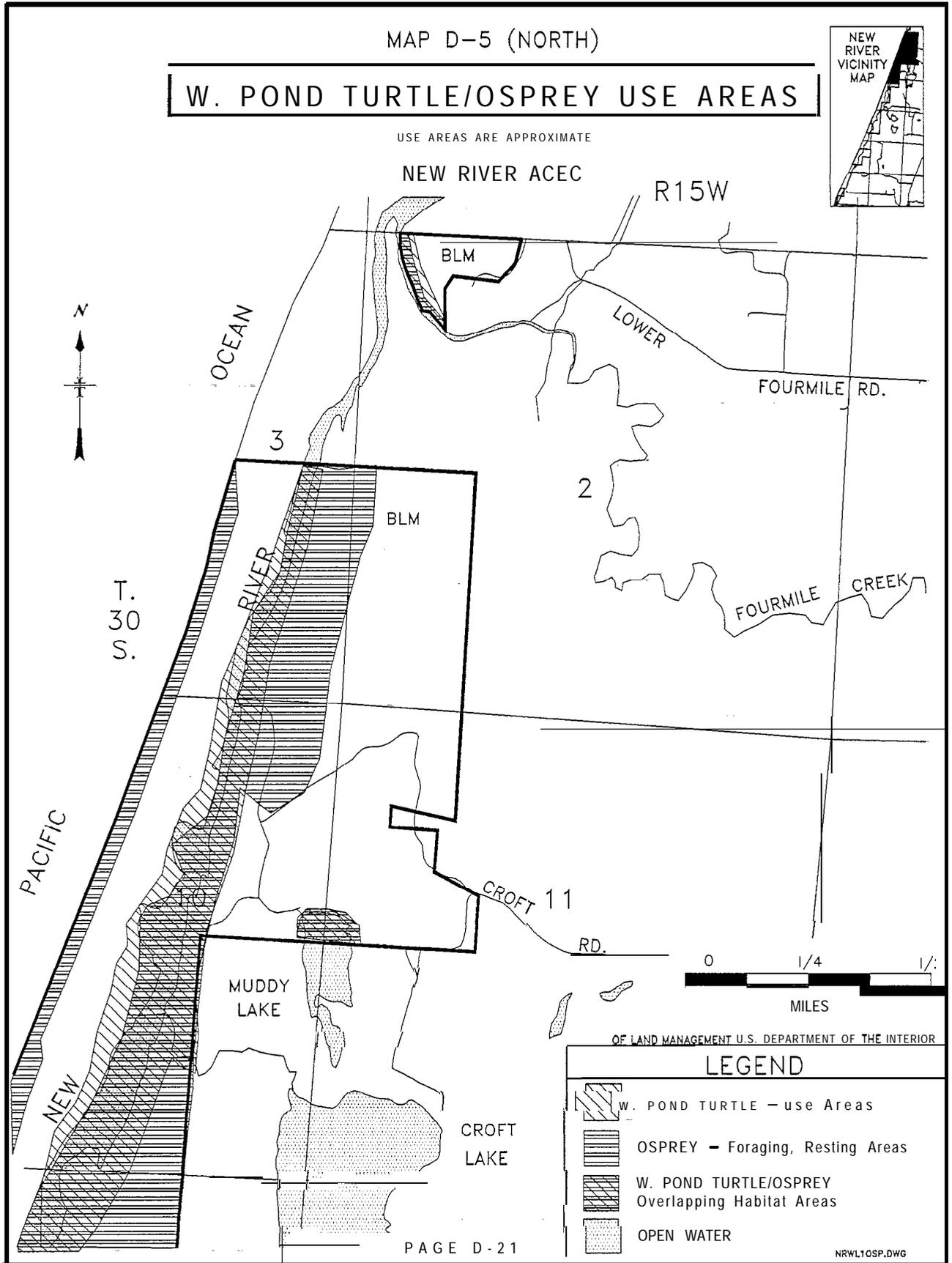
NEW RIVER ACEC
USE AREAS ARE APPROXIMATE

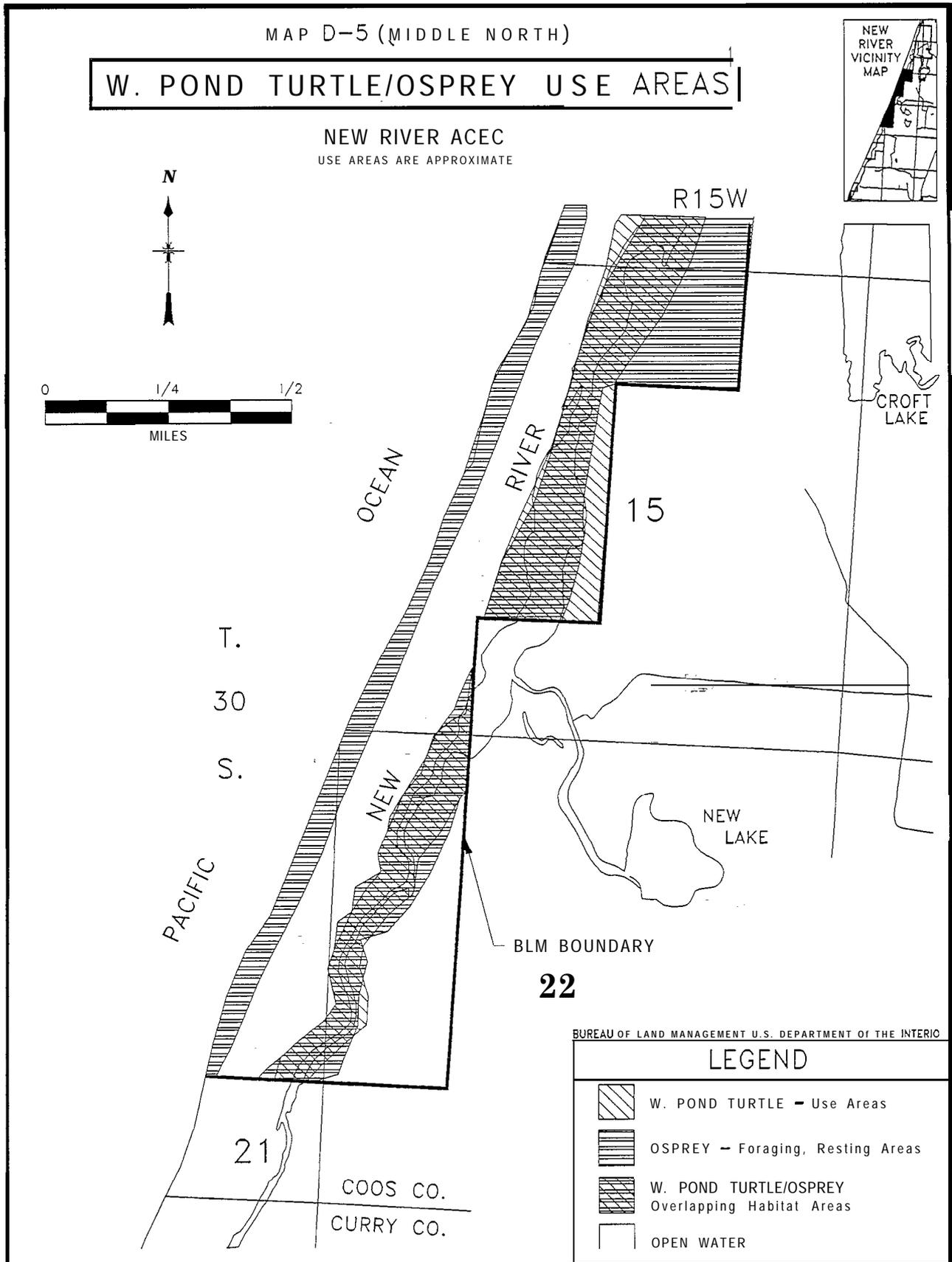


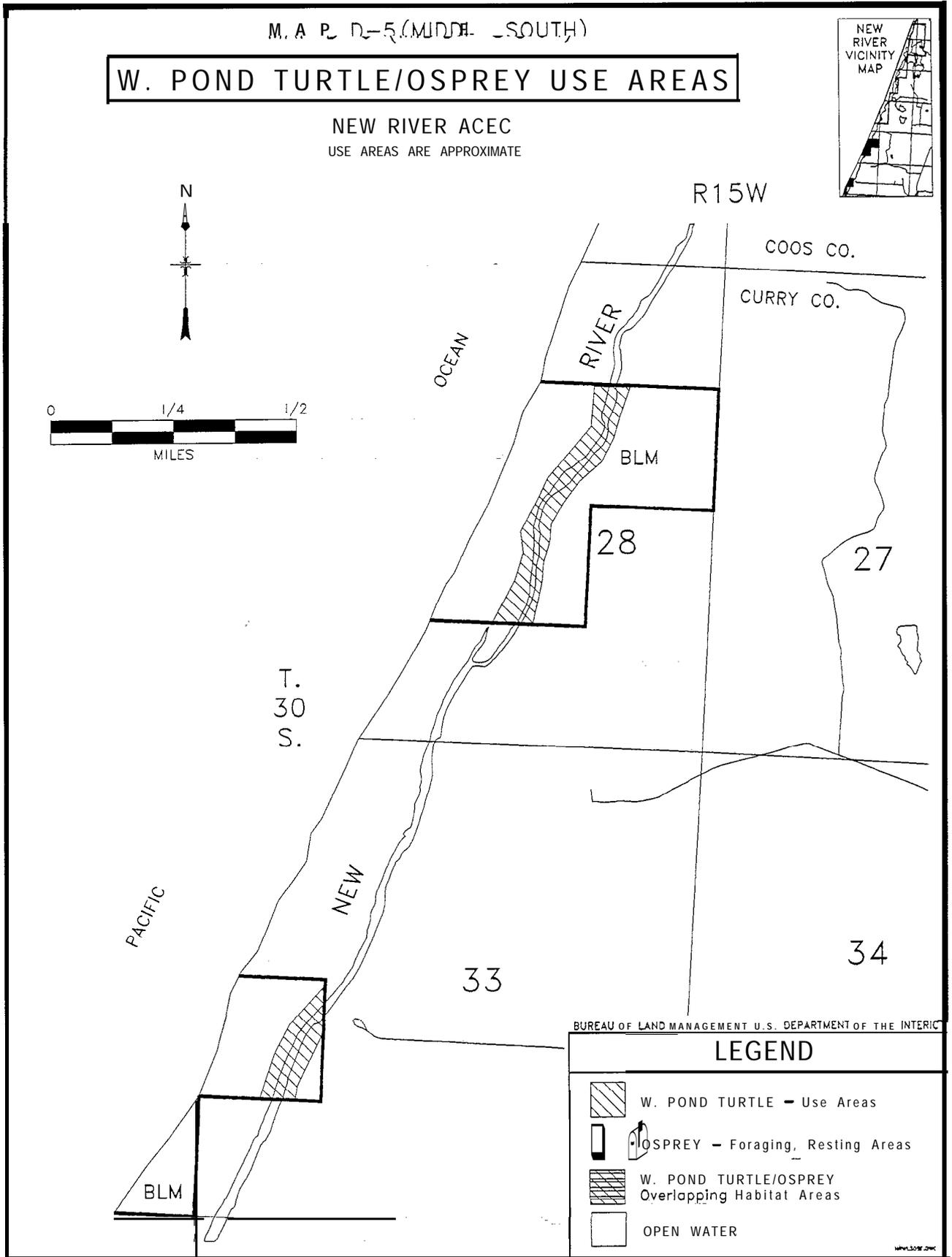
BUREAU OF LAND MANAGEMENT U.S. DEPARTMENT OF THE INTERIOR

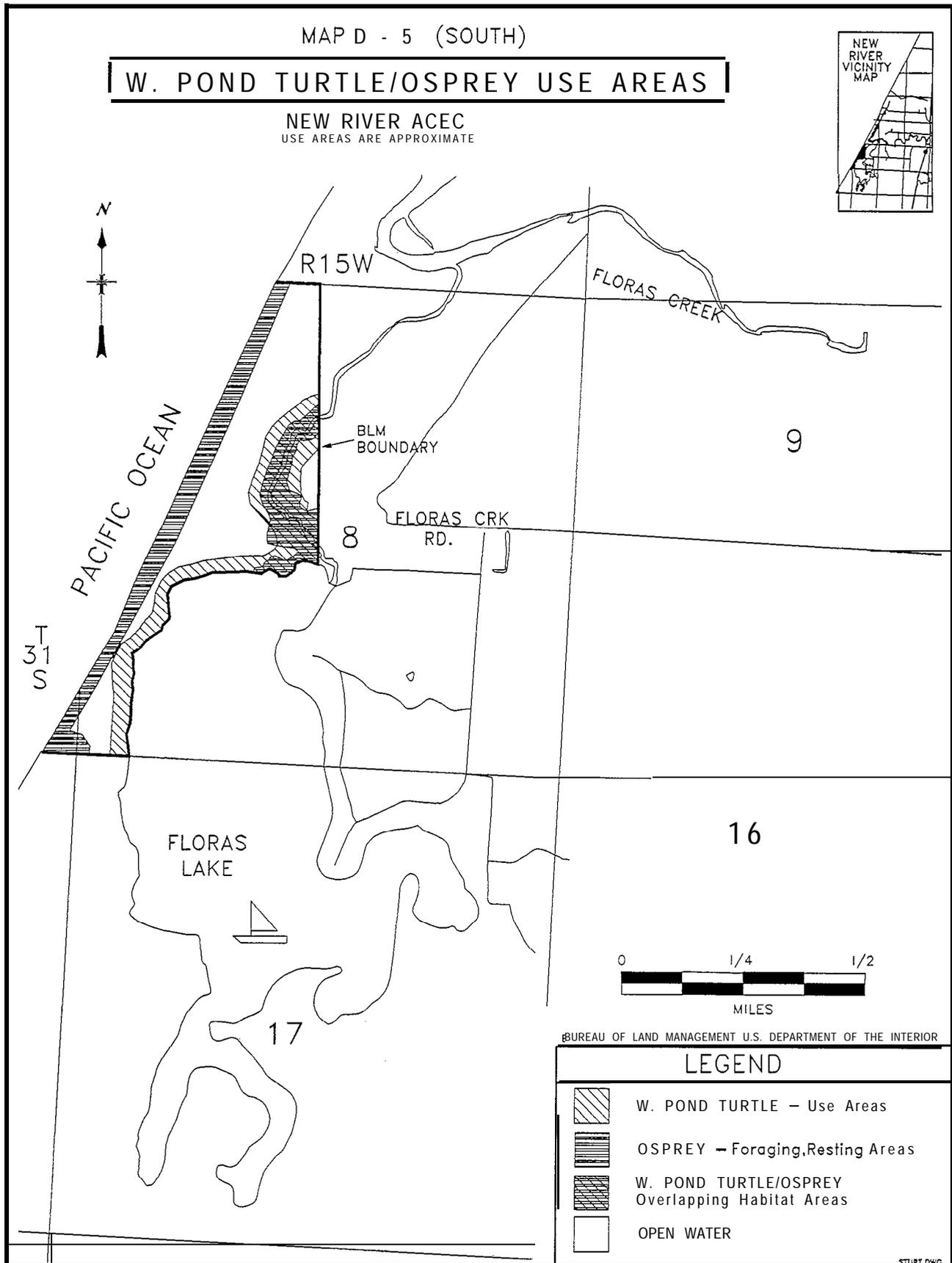
LEGEND

-  BALD EAGLE - Foraging, Resting, Roosting Areas
-  PEREGRINE FALCON - Foraging, Resting Areas
-  BALD EAGLES/PEREGRINE FALCONS Overlapping Habitat Areas
-  OPEN WATER









APPENDIX E

Fish Species Identified in New River

Habitat Use by Salmonids

Coho Salmon

Coho salmon are native to the Floras Creek-New River system, with large numbers of adult coho salmon once spawning in Four-mile Creek, Floras Creek, Morton Creek, Butte Creek, and Bethel Creek. All of these creeks feed into New River or its adjacent lakes and wetlands (Oregon Fish Commission 1967). Recent spawning surveys and interviews with local anglers indicate that the coho salmon population in the New River basin is at a fraction of its historic level. Coho salmon have historically used approx. 30 miles of stream for spawning, but currently use approx. 18 miles (Todd Confer, personal communication). Based on spawning surveys conducted from 1989 to 1993, Fourmile, Morton, Bethel, Butte, and Willow creeks support moderate to high spawning densities of coho salmon, whereas Davis and Floras Creek support low spawning densities (Todd Confer, personal communication).

At one time the coho salmon population in the Floras Creek-New River system was about 2,500 adults; the current population (based on 5-yr. avg.) is probably less than 500 adults and 150 jacks per year (ODFW 1989; Todd Confer, personal communication). In 1993, spawning escapement of coho salmon was 850 adults and 160 jacks; nearly double the estimate of the previous four years. The higher escapement in 1993 may be partially attributable to reductions that occurred in ocean harvest a slight improvement in ocean conditions.

Pacific Coast coho salmon was petitioned for Federal listing under the Endangered Species Act in July 1993. In addition, all south coast stocks of _____ are listed as state sensitive (critical) (ODFW 1992), and the Floras Creek stock was listed at high risk of extinction by the American Fisheries Society (Nehlsen et. al. 1991).

Many factors have contributed toward the decline in coho salmon in the New River basin. Factors include: elimination of wetlands, channel straightening, removal of riparian vegetation and large woody material, increased sediment yields from timber harvesting activities, introduction of warm water fish species to freshwater lakes, and low summer flows/high water temperatures brought on by drought and agricultural water use. The overall reduction in wetlands and introduction of warmwater fish (i.e., largemouth bass) to Floras Lake, New Lake, and Croft Lake, may in combination, have eliminated prime year-round lake-rearing habitat for young coho salmon.

After hatching from eggs and emerging from the gravel, coho salmon commonly rear in freshwater for one to two winters (as fingerlings) before making their seaward migration (as smolts). Their habitat includes deep pools and off channel areas in their nursery streams, as well as lakes, ponds, and open wetlands. These lake and stream features provide with rearing habitat throughout the year. They are especially important in providing slow moving water and abundant cover for young fish to wait out winter floods.

During summer, coho salmon have been observed in New River in the vicinity of New Lake outlet. Juvenile may utilize habitat in New Lake and other freshwater lakes during winter high flows, but drop down into New River during lower flows. Braided and meandering channels in New River near the New Lake outlet contain abundant undercut bank and edge habitat which provide excellent cover for salmon and trout. Sample data in 1989 and 1991 indicates that juvenile coho rearing in New River may grow up to 20 mm in length between June and September (USDI BLM 1991).

Trask River stock of coho salmon juveniles were released into Floras Lake in 1972 and 1973, and several hundred thousand Rogue River stock fry were released in 1981 (ODFW 1989). Coquille River stock fry have been released sporadically by STEP (Salmon Trout Enhancement Program) since 1981 (ODFW 1989).

ODFW has rewritten a management plan for the Floras Creek-New River watershed, and expects the Oregon Fish Commission to approve it in late 1994. ODFW's goal is to maintain a viable population of coho salmon, with no specific goals for escapement described. It is expected that spawning surveys and juvenile population surveys will be used to track population viability. Other guidelines state that coho salmon will be:

- Guided by ODFW's statewide Coho Salmon Management Plan.
- Managed for wild fish, consistent with Wild Fish Management Policy.
- For STEP egg and fry rearing projects, only indigenous (native) or Coquille River stocks will be used, and each project will last no more than 3 years and be done only as part of a small-scale rehabilitation program.

Chinook Salmon

Fall chinook salmon are native to the Floras Creek-New River system. The population currently consists of naturally-produced fish and a few stray hatchery fish from other systems (ODFW 1989). However, there have been a few scattered releases of Elk River stock fall chinook salmon fingerlings (released in 1973 and 1974), and Floras Creek stock fall chinook salmon fry (released in 1983 and 1984) (ODFW 1989).

The Floras Creek-New River stock appears to be unique in that it comprises one of the best fall runs of exclusively wild fish on the southern Oregon coast (Westfall 1987, personal communication, in USDI BLM 1987). However, few data have been collected to document characteristic life history traits, and the population has not been fully quantified. South coast stocks of fall chinook salmon are listed as state sensitive (critical) (ODFW 1992), and are considered at high risk of extinction by the American Fisheries Society (Nehlsen et. al. 1991).

The goal for management of chinook salmon as stated in ODFW's draft management plan for the Floras Creek-New River watershed will be to maintain a viable wild population of chinook salmon, with no specific goals for spawning escapement described (Todd Confer, personal communication). Other guidelines state that chinook salmon will be:

- Guided by ODFW's statewide Chinook Management Plan (currently in draft).
- Managed for wild fish, consistent with Wild Fish Management Policy.
- STEP egg and fry rearing projects will not be performed.

Although data for Floras Creek-New River fall chinook salmon is limited, their natural history appears to parallel that of stocks in the adjacent Sixes River basin (as described by Reimers 1971; and Nicholas and Hankin 1988). Adult fish typically enter New River from mid-October to mid-December, but numbers peak during late November. When the mouth is sealed by a sand bar (often into November), many fish swim over the low sand dune during high tide, or they wait until the mouth breaks open.

Most fish migrate up Floras and Willow creeks to spawn; and periodic spawning surveys since 1989 have not identified chinook salmon in Davis, Bethel, Butte, and Morton creeks (ODFW spawning survey data). Spawning takes place from mid-November through January, with a peak usually during mid-December (Nicholas and Hankin, 1988). As with the adjacent Sixes River, the geographic location indicates that Floras Creek-New River stocks probably migrate north, and age-4 fish make up the majority of female spawners (Nicholas and Hankin 1988).

Several life history types (or life cycles) of juvenile chinook salmon were observed in the Sixes River basin. During the years of his study, Reimers (1971) found that the most prevalent type (and most successful in surviving to return as adult spawners) reared for several months in freshwater streams, and then lived for several months in the estuary before entering the ocean in September and October. Other less successful types spent either more or less time in freshwater, or entered the ocean quickly after having spent very little time in the estuary. The estuary provides a place where the fish can grow to large sizes and become conditioned to salt water (smolt). This behavior seemed to improve survival at sea during some years.

Several weeks to months after emerging from the gravel in early spring, the young fish begin migrating down Floras Creek and New River. It is hypothesized that there are also several life history types in the Floras/New River population. This variety of life history types provides the diversity needed for the population to recover from "catastrophic" environmental events such as flood or drought. Sampling efforts since 1985 indicate that juvenile chinook salmon rear throughout New River and its estuary during summer (June through October). Smolts (juvenile fish that have begun their physical

adaptation to saltwater) enter the ocean any time between June and October. The last of them are flushed out when the river breaches at onset of fall and winter rain storms.

In some years, juvenile migration partially coincides with channel drying between Bono ditch and New Lake outlet. Juveniles surviving migration through this low flow partially dry section take advantage of excellent rearing habitat down stream. Large, deep pools persist during drought periods in the braided channels near New Lake outlet. The 1992 sampling efforts showed that juvenile chinook salmon grew about eight millimeters in length during July, but almost no growth occurred during August.

In comparison, juvenile chinook salmon in Sixes River averaged 20 mm larger than New River fish at ocean entrance (Reimers 1971; Nicholas and Hankin 1988). Growth in New River may be limited by dwindling food resources after the mouth closes, or by decreased stream flow and elevated water temperatures during late summer (USDI BLM 1992).

Even when flow is continuous throughout summer, water temperatures in New River can reach 76°F (acceptable water temperatures range from 45°F to 65°F). A continuous, uninterrupted surface flow in New River would allow fish to migrate through even shallow riffles (less than one foot deep), and reduce the chance of temperature stress, mortality, and predation.

Winter Steelhead

Steelhead are known to spawn in Floras, Willow, Morton, Butte, Bethel, Davis, and Four-mile Creeks, and their tributaries between February and April (Oregon Fish Commission 1967). Steelhead are known to migrate at least to the confluence of the North and South forks of Floras Creek. From 1981 through 1986, STEP conducted annual releases of native stock winter steelhead into Floras Creek (ODFW 1989). Estimated catch of winter steelhead in the recreational fishery has ranged from 90 to 630 fish (average 250) between the 1972/73 and 1986/87 seasons (ODFW 1989).

The goal for management of winter steelhead as stated in ODFW's draft management plan for the Floras Creek-New River watershed will be to maintain a viable wild population, with no specific goals for spawning escapement described (Todd Confer, personal communication). Other guidelines state that winter steelhead trout will be:

- Guided by ODFW's statewide Steelhead Management Plan.
- Managed for wild fish, consistent with Wild Fish Management Policy.
- STEP egg and fry rearing projects will not be performed,

Unlike Pacific salmon, steelhead do not always die after spawning, but may return to the ocean and spawn again in following years. Steelhead also differ from their salmonid cousins by rearing in fresh water for at least two years before migrating to sea. Juvenile steelhead have been observed throughout New River.

Cutthroat Trout

The population status of cutthroat trout in New River is unknown. Sea-run cutthroat trout in south coast basins are considered at moderate risk of extinction by the American Fisheries Society (Nehlsen et. al. 1991). Management efforts typically ignore cutthroat trout because it is not a commercially valuable species.

Cutthroat trout have been sampled throughout New River, and many are caught in the recreational fishery. Sea-run cutthroat trout up to 16 inches in length use habitat in Floras Lake outlet and the braided mid-reaches of New River, where depth exceeds four feet during summer, and where undercut bank and overhanging vegetation habitat is abundant. Cutthroat trout are known to spawn in Floras and Willow Creeks (Oregon Fish Commission 1967). An isolated population of resident cutthroat trout is known upstream from the cascades on Willow Creek.

Other Fishes

The total complement of fish species in the New River basin has not been sampled nor described. In addition to salmonids, several freshwater, estuarine, and marine fish species can be found in New River (see Table 2 in Part 2).

APPENDIX F

New River ACEC Acreage

Original public land: 523 acres
T. 30 S., R. 15 W.W.M.
Portions of Sections 3, 10, 15, 21, 22, 32 and 33

Additional acquired land: 471 acres
T. 30 S., R. 15 W.W.M.
Portions of Sections 2, 10, 11, and 28
and,
T. 31 S., R. 15 W.W.M.
Portions of Sections 7 and 8

Specific additional acquired land, year acquired, acreage, and Section numbers:

Toth Exchange	(1986)	14.2 acres	(Section 2)
Hammond Purchase	(1991)	105.45 acres	(Sec. 28)
Storm Ranch Purchase	(1991)	240.15 acres	(Sec. 2, 10 and 11)
Floras Lake Land Purchase	(1994)	111.48 acres	(Sec. 7 and 8)

Public land to be included in the New River ACEC is a total of 994 acres, more or less, subject to further land acquisitions.

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REPTILES AND AMPHIBIANS - There have been no specific reptile or amphibian inventories in the New River ACEC. The following list includes actual and reported observations. Also, potential occupants, as suggested by range maps and other references, are listed with an “*”. This list is believed to be current but additional species may be seen in the area.

Amphibians:

Ambystomatidae

Northwestern Salamander (*Ambystoma gracile*)
Pacific Giant Salamander (*Dicamptodon ensatus*)*

Plethodontidae

Clouded Salamander (*Aneides ferreus*)
Southern Torrent Salamander (*Rhyacotriton olympicus*)*
Ensatina (*Ensatina eschscholtzi*)*
Dunn’s Salamander (*Plethodon dunni*)*
Western Redbacked Salamander (*Plethodon vehiculum*)*

Salamandridae

Roughskin Newt (*Taricha granulosa*)

Hylidae

Pacific Treefrog (*Hyla regilla*)

Leiopelmatidae

Tailed Frog (*Ascaphus truei*)*

Ranidae

Redlegged Frog (*Rana aurora*)
Bullfrog (*Rana catesbeiana*)

Reptiles:

Cheloniidae

Sea turtle (unknown spp.)
Green Sea Turtle (*Chelonia mydas*)*
Logger-head Sea Turtle (*Caretta caretta*)*
Pacific Ridley Sea Turtle (*Lepidochelys olivacea*)*

Dermochelyidae

Leather-back Sea Turtle (*Dermochelys coriacea*)*

Emydidae

Western Pond Turtle (*Clemmys marmorata*)

Anguidae

Northern Alligator Lizard

Iguanidae

Western Fence Lizard (*Sceloporus occidentalis*)
Sagebrush Lizard (*Sceloporus graciosus*)*

Scincidae

Western Skink (*Eumeces skiltonianus*)*

Boidae

Rubber Boa (*Charina bottae*)

Colubridae

Garter Snake (unknown spp.)
Northwestern Garter Snake (*Thamnophis ordinoides*)*

Common Garter Snake (*Thamnophis sirtalis*)*
W. Terrestrial Garter Snake (*Thamnophis elegans*)*

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