

**CONFORTH RANCH WILDLIFE MITIGATION
FEASIBILITY STUDY**

MCNARY, OREGON

Annual Report

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Abstract

The **2,860-acre Conforth** Ranch near Umatilla, Oregon is being considered for acquisition and management to partially mitigate wildlife losses associated with the **McNary** Hydroelectric Project. The Habitat Evaluation Procedures (**HEP**) were used to evaluate existing, and to project future **habitat conditions** on the ranch. The evaluation estimated that management for wildlife would result in habitat unit gains of 519 for meadowlark, 420 for quail, 431 for mallard, 466 for Canada goose, 405 for mink, 49 **for** downy woodpecker, 172 for yellow warbler, and 34 for spotted sandpiper. This amounts to a total combined gain of 2,495 habitat units - a 110 percent increase over the existing values for these species combined of 2,274 habitat units. Additional habitat units for most of these target species would be credited for acquisition which would preclude future development adverse to wildlife. Current water delivery costs are estimated at \$50,000 per year, and would, after upgrading, be expected to increase to \$125,000 per year on a long-term basis. A survey of local interest in the concept of utilizing the **Conforth** Ranch as a wildlife mitigation area indicated a majority of **respondents** favored the concept. A minority, essentially limited to industrial development interests, opposed the concept. A Level 1 contaminant survey **did** not identify any contaminant threats to fish and wildlife. No **contaminants** that would preclude the Fish and Wildlife Service from agreeing to accept the property were identified. The present owner, Mr. Conforth, supports the use of his ranch as a public wildlife area, and he would be a willing seller.

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INTRODUCTION

This report presents a preliminary analysis of the wildlife habitat benefits that could be attained by acquiring and managing the **2,860-acre Conforth** Ranch near Umatilla, Oregon as partial mitigation for the wildlife impacts caused by the construction and operation of McNary Hydroelectric Project. The study is authorized generally under Section **4(h)** of the Northwest Electric Power Planning and Conservation Act of 1980.

The acquisition was proposed, and study was funded by Bonneville Power Administration (**BPA**), under the more specific authority of Measure 1003(b)(7)(c) of the Columbia River Basin Fish and Wildlife Program adopted by the Northwest Power Planning Council.

The primary objective was to conduct a baseline study of wildlife habitat on the ranch to estimate existing wildlife values, and to estimate future changes in wildlife values and benefits resulting from management and enhancement actions. Included with these estimates are present and projected future water delivery costs, and a cursory examination of water drainage patterns.

Other actions included a survey of the ranch and review of records to determine if any contaminants issues exist that would warrant additional investigations; and a survey of the public's attitude toward utilizing **Conforth** Ranch as a wildlife mitigation site.

The Fish and Wildlife Service worked cooperatively with the Oregon Department of Fish and Wildlife to accomplish study objectives. Approximately three meetings and two on-site field trips were conducted by these agencies (from October through December 1990) to complete the objectives.

STUDY AREA

Conforth Ranch is 2,860 acres and lies adjacent to the south shore of the Columbia River along McNary Reservoir between the Port of Umatilla (River Mile 295) on the west and Hat Rock State Park (River mile 299) on the east (Figure 1). It is bisected from west to east by State Highway 730, and abuts agricultural lands to the south.

WILDLIFE ASSESSMENT

Habitat Types

Acreages for seven wildlife habitat types were estimated based upon vegetative cover type maps prepared in 1990 for the "Wildlife Impact Assessment, McNary Project, Oregon and Washington", and from an aerial photograph (date unknown) obtained from the Oregon Department of Fish and Wildlife. Both sources were ground checked in the field during the week of October 1, 1990, and were considered to be representative of the existing habitat.

FIGURE 1. CONFORTH RANCH VICINITY

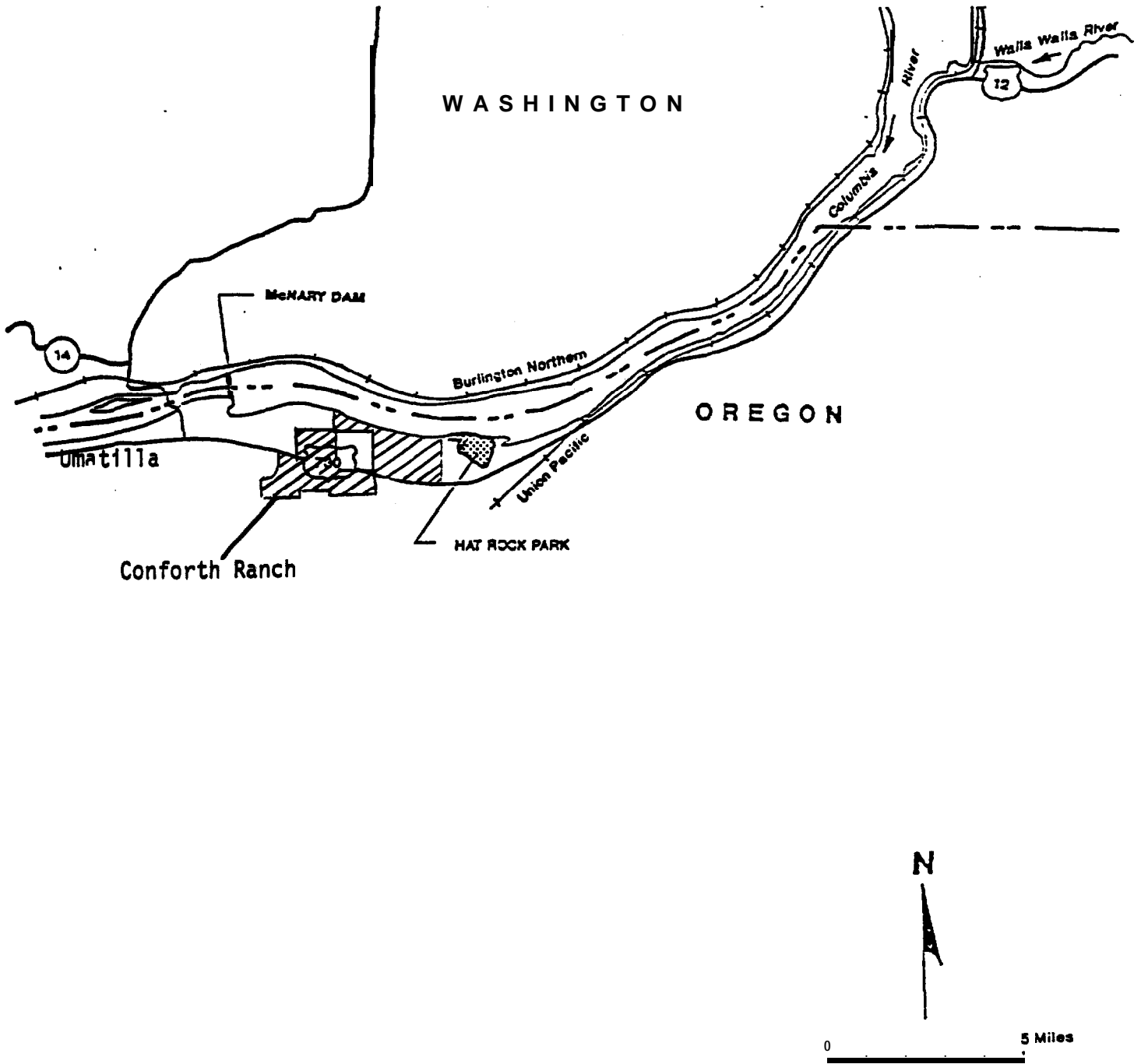


Table 1 shows the acreages of the seven extant habitat types. A brief description of each type follows:

Table 1. Existing **Conforth** Ranch wildlife habitat types and their acreages.

<u>Habitat Type</u>	<u>Acreage</u>	<u>Percent of total</u>
Shrub/steppe/grass	1,560	55
Emergent wetland	175	6
Riparian tree	5	<1
Riparian herb	35	1
Riparian shrub	30	1
Agriculture	1,000	35
Sand/gravel/cobble/mud	25	<1
Developed (non-habitat)	30	1
Totals	2,860	100

Shrub/Steppe/Grass: This is the dominant cover type on the ranch and **occurs** where there is no irrigation. Big sagebrush is the most common shrub and its coverage varies from practically none to very dense. **Some** rabbitbrush **and** bitterbrush also occur in this cover type. Cheatgrass is the dominant grass and its density varies greatly, but is more often sparse than dense. Generally this cover type appeared to have been heavily grazed and contained a high ratio of exposed soil to vegetative cover. The shrub/steppe/grass cover type comprised 55 percent of the ranch (**1,560-acres**).

Agriculture (Pasture): Pasture is the only agricultural land contained within the 2,860 acres. It is all flood irrigated to varying degrees and appeared to be comprised of an "improved" **grass/forb** mix. This cover type comprised 35 percent (1,000 acres) of the ranch.

Emergent Wetland: These **areas** are well defined and occur primarily as "pot holes" resulting from the application of "irrigation" water onto small **closed** basins. They range from **1/2** to 5 acres in size. Typical wetland **taxa** include **Carex spp.**, **Juncus spp.**, **Typha spp.**, and **saltgrass**. Although a few of these areas contain well established stands of these species, most have been heavily impacted by livestock and are sparsely vegetated. Wetlands comprise 6 percent (175 acres) of the ranch. The distribution of wetlands on the property **is** displayed on maps from the Fish and Wildlife Service National Wetlands Inventory (Figure 2).

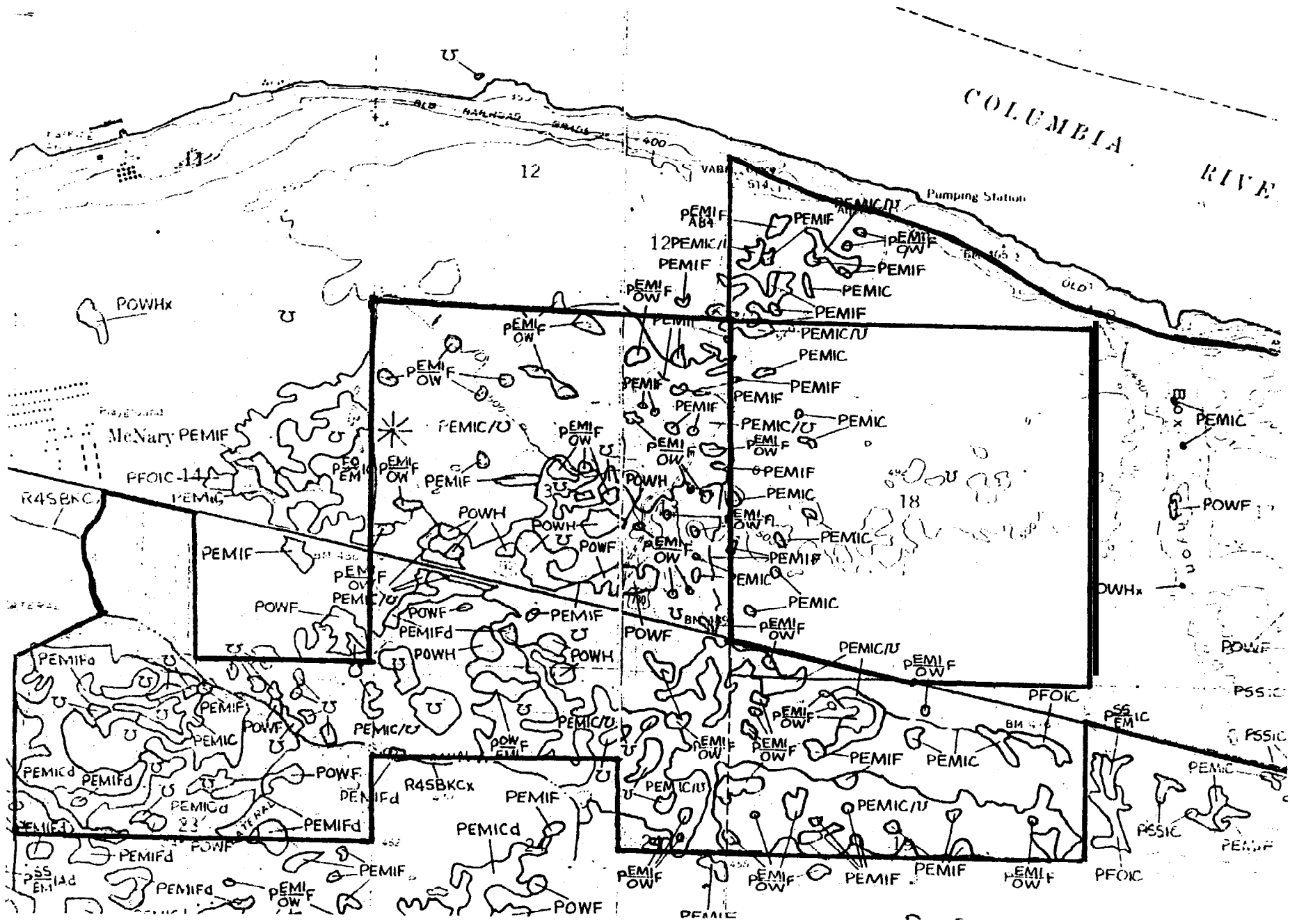


Figure 2. Wetlands on the Conforth Ranch (National Wetlands Inventory)

Rioarian Herb: Riparian herb consisted of low growing vegetation, chiefly herbaceous, adjacent to emergent wetlands or in other low areas receiving irrigation runoff. They were usually weedy, less heavily grazed, and did not appear to be improved for pasture. They comprised just over 1 percent (35 acres) of the area.

Rioarian Shrub: This cover type included young willows and/or Russian olive less than 15 feet high. They are often associated with riparian herb communities or irrigation ditches. The shrubs were usually sparsely spaced and occurred on sites with relatively dense stands of forbs and grasses. Most of these areas are wetlands occurring as a result of irrigation. They comprised 1 percent (30 acres) of the ranch.

Sand/Gravel/Cobble/Mud: This cover type occurred around the perimeters of the emergent wetland. Occasionally some vegetation was present, but never abundant. Without grazing, some of this area would likely develop into riparian herb or riparian shrub habitat. It comprised less than 1 percent (25 acres) of the ranch.

Rioarian Tree: This cover type consists of black cottonwood, willow, and Russian olive. It is associated with the ranch's wetlands and irrigation ditches. Only 3 stands larger than an acre were found, and it comprises less than 1 percent, 5 acres, of the ranch.

Other: Approximately 30 acres, 1 percent, of the ranch is comprised of feed lots, outbuildings, and other similar areas relatively void of vegetation. These areas were determined to have no existing value for wildlife.

Habitat Evaluation Procedures

Habitat Evaluation Procedures (**HEP**) were utilized to evaluate the quality of wildlife habitat on the ranch. The HEP was conducted by biologists from the Oregon Department of Fish and Wildlife and the Fish and Wildlife Service.

Habitat conditions were analyzed based on models developed for each of eight target species. The species utilized in the evaluation were those utilized to evaluate losses associated with McNary Hydroelectric Project. They were selected because their particular habitat requirements were indicative of major vegetative cover types that were impacted by the McNary project and present on **Conforth** Ranch. They often represented a larger group of species with similar habitat requirements, and were of special significance in the area from an economical, ecological, social, or environmental standpoint. These species and the rationale for their selection are identified in Table 2.

The mink, yellow warbler, and downy woodpecker HEP models have been published and are available from the USFWS (Allen, 1986, Schroeder, 1982, Schroeder, 1983). The spotted sandpiper model was developed from a literature review by Geoff Dorsey, a member of the John Day project HEP team. The model for the Canada goose was based on a model developed by Dave **Lockman**, Mike Whitfield, Bob Jones, and Chuck Solomon for use in evaluating the Palisades project on the South Fork of the Snake River in Idaho. That model was modified by the McNary evaluation team to adapt to the McNary Project area. The California quail model was taken from the Fish and Wildlife Service Draft Terrestrial Habitat Evaluation Criteria Handbook for Ecoregion 2410, June, 1978. The variables were reviewed and determined applicable by the McNary HEP team. The

Table 2. Target species selected for the McNary HEP (and also used to evaluate **Conforth** Ranch) and the rationale for their selection.

<u>Species</u>	<u>Rationale</u>
Spotted sandpiper (<u>Actitis macularia</u>)	A representative of migratory shorebirds which utilize the sparsely vegetated islands, mudflats, shorelines, and sand and gravel bars associated with the McNary Project area.
Canada goose (<u>Branta canadensis</u>)	A migratory bird of national significance sensitive to island nesting habitat and associated shoreline brooding areas. Cultural significance.
Yellow warbler (<u>Dendroica petechia</u>)	Represents species which reproduce in riparian shrub habitat and make extensive use of adjacent wetlands. There is an existing HEP model which is sensitive to the targeted habitats - riparian shrub and adjacent wetlands.
Mink (<u>Mustela vison</u>)	Carnivorous furbearer, feeds on a wide range of vertebrates. Utilizes shoreline and adjacent shallow water habitats. HEP model available. Cultural significance.
Western meadowlark (<u>Sturnella neglecta</u>)	A species common to shrub-steppe-grassland habitat, the largest terrestrial habitat type flooded by the McNary project. This bird, well known for its melodious song, feeds primarily on insects and seeds.
California quail (<u>Lophortyx californicus</u>)	A species associated with brushy thickets, shrub-steppe-grassland, riparian shrub, and cropland habitats. This game animal feeds essentially on seeds and greens in somewhat open brushy and grassland areas.
Mallard (<u>Anas platyrhynchos</u>)	The mallard utilizes a broader range of cover types than any other target species. Shrub-steppe-grassland , riparian herb, and island habitats are all used to some degree for nesting. Open water and agricultural areas provide winter resting and feeding while emergent wetlands are necessary for brood rearing.
Downy woodpecker (<u>Picoides pubescens</u>)	This woodpecker represents a species which feeds and reproduces in a tree environment. The downy woodpecker HEP model was selected to measure the riparian tree cover type . Its diet is primarily insects with some seeds and fruits.

model for the mallard was jointly developed from several other models by the members of the **McNary** HEP team. The spotted sandpiper, Canada goose, California quail, and mallard models are in Appendix A. The Western Meadowlark model was a modified form of the USFWS Eastern Meadowlark (**Shroeder** and Sousa 1982).

Each species model uses a number of measurable variables that **are** combined into a simple equation which results in a Habitat Suitability Index (**HSI**) value for each sample site. The average HSI from all sample sites in each cover type is used as the HSI value for a given evaluation species in the study area. This overall HSI, which is a number between 0 and 1.0, is a quality index or a measure of the capacity of each cover type on the ranch to meet the life requisites of the evaluation species.

The HEP team spent 3 days on the ranch measuring many different habitat variables for each of the evaluation species found in the various vegetative cover types. Several sample sites were measured for each cover type. After measuring the existing variables at each sample site the HEP team discussed and reached a consensus as to how the variables would be altered with management. Both the existing and projected variables' measurements were noted for each sample site. Tables 3, 4, and 5 identify the cover types that were evaluated for each species. The variables devised from these measurements were used to develop an HSI value. Each HSI value was multiplied by the total number of acres of the associated habitat type to give the number of habitat units for each evaluation species.

Each species along with its associated habitat and variables that were measured in the field is described below.

Spotted sandpiper - The evaluation team sampled two sand/gravel/cobble/mud (shoreline) habitats. Measurements were taken at these sites to determine the value of cover, foraging habitat, and distance from water to nesting and foraging areas.

Canada Goose - HSI values for Canada geese were developed for riparian herb, agricultural, sand/gravel/cobble/mud, and emergent wetland habitats. **Riparian** herb and certain agricultural, emergent wetlands and sand/gravel/cobble/mud areas may provide important foraging and breeding areas for juvenile geese. However, Canada goose nesting habitat occurs almost exclusively on islands and **Conforth** Ranch does not contain any islands suitable for nesting. Accordingly, the HEP team felt that the ranch presently is not utilized by nesting or brooding Canada geese. However, with management, the team believed islands and nesting structure could be easily established on the existing wetlands and that the aforementioned habitats would become **useable** by Canada geese for nesting and brooding.

Yellow Warbler - The evaluation team looked at three habitat variables in 3 different riparian shrub areas. The variables measured were the percent deciduous crown cover, average height of deciduous shrub canopy, and percent of the deciduous shrub canopy which is hydrophytic.

California quail - Shrub/steppe/grass, agricultural, riparian shrub, and riparian herb habitat sample sites were measured to determine their value to California quail. Four shrub/steppe/grass, four agricultural, three riparian shrub, and four riparian herb sites were selected to evaluate this species. Five parameters were measured to develop an HSI value at each sample site. These parameters included percent of ground vegetative cover consisting of

herbs and grasses, average shrub height, distance to escape cover, average diameter of escape cover patches, and distance between escape cover patches.

Mallard - Mallard habitat was represented by riparian herb and emergent wetlands (brood rearing). Four variables were measured to determine an HSI value for mallard nesting. These were: 1) the distance between nesting cover and water with emergent vegetation (for broods); 2) height of the nesting cover; 3) percent canopy cover; and 4) the probable amount of disturbance by people and/or dogs. The brood rearing value of emergent wetlands was measured by determining the **ratio of open water to water** covered by emergent vegetation. Four emergent wetland and 4 riparian herb sites were sampled in these habitats to **develop** an HSI value for the mallard.

Mink - Habitat variables measured in the field included the percent of shoreline cover within 1 meter of the waters edge, the percent tree/shrub canopy within 100 meters of waters edge, and the percent of the year that water is present. These variables were analyzed in riparian tree, riparian shrub, riparian herb, sand/gravel/cobble/mud, and emergent wetland habitat types which combined provided 14 sample sites.

Western meadowlark - Habitat variables in four shrub/steppe/grass sample sites were measured. Five variables were used to determine the HSI for each site. They include herbaceous canopy cover, percent herbaceous canopy that is grass, average height of the herbaceous canopy, distance to nearest perch site, and percent shrub canopy cover.

Downy woodpecker - One different sample site was evaluated in the riparian tree cover type utilizing the downy woodpecker criteria. Two variables were measured: 1) basal area; and 2) number of snags per acre.

Results

Existing and Future (with management) HSI scores and habitat units for each of the target species are discussed below and summarized in Tables 3, 4 and 5.

Spotted sandpiper

Spotted sandpiper utilize the sparsely vegetated shoreline areas associated with emergent wetlands on the ranch for foraging and nesting. These shoreline habitats presently occupy 25 acres and have an HSI value of 0.4 for the spotted sandpiper - equalling 10 habitat units. With management, the acreage would increase to 55 acres, with an HSI of **.08** - equalling 44 habitat units.

Canada goose

Canada geese do not presently nest or brood on the ranch, and therefore it has no value **for** nesting or brooding geese. However, with management geese would nest on the ranch and utilize 350 acres of emergent wetland with an 0.3 HSI. In addition, they would use 235 acres of riparian herb with a 0.3 HSI, 580 acres of agricultural (pasture) land with a 0.5 HSI. Collectively all these habitats would provide 466 HUB for Canada goose.

Yellow warbler

The yellow warbler reproduces and feeds in riparian shrub habitat adjacent to wetlands. The ranch has 30 acres of riparian shrub habitat with an HSI value

of 0.1 for yellow warbler, equaling 3 **HUs** for the warbler. With management this acreage would increase to 175 acres with a 1.0 HSI, equaling 175 **HUs** for the warbler.

California quail

The ranch contains **1,560-acres** of shrub/steppe/grass habitat with a 0.5 HSI value and 780 **HUs** for the quail. With management this acreage would be reduced to 1,270 and the HSI would increase to 0.8, equaling 1,016 **HUs**. The ranch has 35 acres of riparian herb with a 0.7 value **for** quail, equaling 25 **HUs**. Management would increase this acreage to 235 acres and its HSI for quail would become 0.9, providing 212 **HUs**. There are 30 acres of riparian shrub with a 0.7 HSI for quail providing 21 **HUs**. Management would increase this acreage to 175 acres with a 0.9 HSI providing 158 **HUs** for quail. There are 1,000 acres of agricultural land (pasture) with a 0.6 HSI for quail, providing 600 **HUs**. Management would result in 580 acres of pasture with a 0.7 HSI for quail, providing 406 **HUs**. In addition, 60 acres of **cropland** would be established with a 0.9 HSI for quail, providing 54 **HUs**. Collectively all of the existing habitats provide 1,426 **HUs** for quail; and with management the ranch would provide 1,846 **HUs** for quail.

Mallard

Presently nesting and brooding mallards utilize 175 acres of emergent wetlands with a 0.6 HSI, providing 105 **HUs**; and 35 acres of riparian herb with a .01 HSI, providing 4 **HUs**. With management the emergent wetland would increase to 350 acres with a 0.9 HSI, providing 315 **HUs**; and the riparian herb would increase to 235 acres with a 0.7 HSI, providing 165 **HUs**. In addition, 60 acres of perennial **cropland** with a 1.0 HSI would provide 60 **HUs** for mallards.

Mink

Mink utilize: 175 acres of emergent wetland with a 0.5 HSI, providing 88 **HUs**; 5 acres of riparian tree with a 0.5 HSI, providing 3 **HUs**; 35 acres of riparian herb with a 0.1 HSI, providing 4 **HUs**; 30 acres of riparian shrub with a 0.1 HSI, providing 3 **HUs**; and 25 **acres of** sand/gravel/cobble/mud with a 0.1 HSI, providing 3 **HUs**. With management these values would increase as follows: 350 acres of emergent wetland with a 0.8 HSI, providing 280 **HUs**; 125 acres of riparian tree with a 0.5 HSI, providing 63 **HUs**; 235 acres of riparian herb with a 0.3 HSI, providing 71 **HUs**; 175 acres of riparian shrub with a 0.4 HSI, providing 70 **HUs**; and 55 acres of sand/gravel/cobble/mud with a 0.4 HSI, providing 22 **HUs**. Collectively, the existing 270 acres of habitat provides 101 **HUs** for mink; with management 940 acres of habitat would provide 506 **HUs** for mink.

Western meadowlark

Western meadowlark utilizes 1,560 acres of shrub/steppe/grass habitat with a 0.4 HSI, which provides 624 **HUs**. With management this habitat would be reduced to 1,270 acres, however, its quality would be increased to a 0.9 HSI which would provide 1,143 **HUs** for meadowlark.

Downy woodpecker

Presently, there are only 5 acres of riparian tree habitat on the ranch and they have a 0.2 HSI for the downy and provide 1 HU. With management the acreage would increase to 125 acres with a 0.4 HSI, providing 50 **HUs**.

Collectively, the existing ranch provides for all species 2,274 habitat units (Table 3); and with management it would provide 4,770 habitat units (Table 4) - a net increase from management alone of 2,496 habitat units (110 percent) (Table 5).

WILDLIFE MANAGEMENT PLAN

The **Conforth** Ranch has several attributes which make it well suited to partially mitigate the wildlife losses associated with the McNary Hydroelectric Project.

1. It is immediately adjacent to the area impacted and contains all of the habitat types lost with the McNary Project.
2. All of the target species adversely impacted by the McNary Project presently utilize the ranch.
3. An adequate water supply is available with the property and the basic water delivery components are in place.
4. All of the target species and their habitats can be significantly enhanced by removing and controlling livestock use, and/or better water management.

Preliminary management objectives would include the following:

1. Provide quality habitat for migratory waterfowl and shorebird production.
2. Protect and enhance habitat for federal and/or state recognized threatened, endangered or sensitive wildlife species.
3. Protect and enhance all riparian habitats on the ranch.
4. Provide a variety of recreational opportunities consistent with the first three objectives.

In view of the above, wildlife management for **Conforth** Ranch would include the following:

1. Remove livestock grazing from all areas until they recover and then utilize grazing, mowing, and/or burning to maintain desirable forage qualities for wildlife.
2. Maintain and repair the existing water delivery systems and continue to irrigate and maintain existing emergent wetland and riparian habitats. In addition, extend the duration of surface water into the late fall and early spring.
3. Extend the existing water delivery system to double the number and acreage of emergent wetlands and increase the riparian habitat acreages.

Table 3. Summary of Existing HSI Values and Habitat Units on the **Conforth** Property. (The upper figure under each species heading is the HSI and the lower figure is Habitat Units.)

<u>Cover Type/ Acres</u>	<u>Meadow- lark</u>	<u>Valley quail</u>	<u>Mallard 1/ Goose</u>	<u>Canada 2/ Goose</u>	<u>Mink</u>	<u>Woodpecker</u>	<u>Yellow Warbler</u>	<u>Sandpiper</u>
Shrub/steppe/grass 1,560	0.4 624	0.5 780						
Emergent wetland 175			0.6 105		0.5 88			
Riparian Tree 5					0.5 3	0.2 1		
Riparian Herb 35		0.7 25	0.1 4		0.1 4			
Riparian Shrub 30		0.7 21			0.1 3		0.1 3	
Agriculture 1,000 (Pasture)		0.6 600						
Sand/gravel/cobble/mud 25					0.1 3			0.4 10
Developed (non-habitat) 30								
Total 1,860	624	1,426	109	0	101	1	3	10

TOTAL HABITAT UNITS FOR ALL SPECIES 2,274

1/ Nesting and brooding use only.

2/ Nesting and brooding **use** only, which presently does not occur.

Table 4. Summary of **Future with management HSI Values** and **habitat Units on the Conforth Property**.
 (The upper figure **under** each species heading is the **HSI** and the lower figure is **Habitat Units**.)

<u>cover Type/ Acres</u>	<u>Meadow- lark</u>	<u>Valley- auail</u>	<u>Mallard 1/ Goose</u>	<u>Canada 1/ Goose</u>	<u>Mink</u>	<u>Woodpecker</u>	<u>Yellow Warbler</u>	<u>Sandpiper</u>
Shrub/steppe/grass 1,270	0.9 1,143	0.8 1,016						
Emergent wetland 350			0.9 315	0.3 105	0.8 280			
Riparian Tree 125					0.5 63	0.4 50		
Riparian Herb 235		0.9 212	0.7 165	0.3 71	0.3 71			
Riparian Shrub 175		0.9 158			0.4 70		1.0 175	
Agriculture 580 Pasture		0.7 406		0.5 290				
60 Crop		0.9 54	1.0 60					
!&d/gravel/cobble/mud 55					0.4 22			0.8 44
Total 2,860	1,143	1,846	540	466	506	50	175	44

TOTAL HABITAT UNITS FOR ALL SPECIES 4,770

1/ Nesting and brooding use only.

Table 5. Summary of Habitat Units and Acreages for existing and future **with** management options on the **Conforth** property.

Habitat Type	Meadowlark	Valley Quail	Mallard	Canada Goose	Mink	Woodpecker	Yellow Warbler	spotted Sandpiper	
Existing (E)									
Future (F)									
Shrub/Steppe/Grass									
1,560 (E)	624	780							
1,270 (F)	1,143	1,016							
Emergent Wetland									
175 (E)			105	0	88				
350 (F)			315	105	280				
Riparian Tree									
5 (E)					3	1			
125 (F)					63	50			
Riparian Herb									
35 (E)		25	4	0	4				
235 (F)		212	165	71	71				
Riparian Shrub									
30 (E)		21			3		3		
175 (F)		158			70		175		
Agriculture									
1,000 (E)		700	0	0					
580 past/60 crop (F)		406/54	0/60	290/0					
Sand/Gravel/Cobble/Mud									
25 (E)					3			10	
55 (F)					22			44	
Developed									
30 (E)									
10 (F)									
Totals	2860 (E)	624	1,426	109	0	101	1	3	10 = 2,274
	2860 (F)	1,143	1,846	540	466	506	50	175	44 = 4,770
		+519	+420	+431	+466	+405	+49	+172	+34 = +2,496

4. Create waterfowl and/or shorebird nesting islands on the larger emergent wetlands and/or install artificial nest structures.
5. **Increase** the acreage and distribution of riparian herb, shrub, and tree **areas**. (Eliminating and then controlling grazing will allow many of these **areas** to establish on their own.)
6. Place water guzzlers throughout those areas of shrub/steppe/grass that presently are without adequate drinking water.
7. **Increase** diversity and distribution of bitterbrush and other desirable native shrubs within the shrub/steppe/grass area to **improve escape cover** for a variety of mammals and birds.
8. Establish trees to provide nesting and perching habitat for a variety **of** birds.
9. Establish fruit bearing trees and shrubs to provide cover and food for a variety of wildlife native to the area.
10. Control public access.

WATER DELIVERY SYSTEM

Since the **extensive "McNary Potholes"** wetlands are largely supported by water pumped from the Columbia River and preservation of wetlands, continued irrigation **for** wildlife food crops, and possible increase in habitat development is contemplated, there is interest in aspects of distribution and cost of water on the area. Water delivery is an important operation and maintenance cost.

Existing Water Right

The ranch existing right is to irrigate 794 acres not to exceed 2.5 feet per acre, plus **water for** stock use (0.2 cubic feet per second (**cfs**) per animal). Overall water withdrawal is not to exceed 7.8 cfs. This right is being **exercised near capacity** by the present owner. The water master indicates this right could be expanded.

Present Water Delivery Cost

The existing delivery system costs approximately \$50,000 to operate annually - \$20,000 for power to operate the pumps and approximately \$30,000 to maintain the pumps and delivery system. However, maintenance has been less than adequate and the delivery system is in need of repair.

Projected Water Use and Cost

For the first 3 years after acquisition it would cost approximately \$270,000 annually to repair and maintain **the** existing water delivery system. Approximately \$150,000 would be for salaries and benefits for 3 employees. **The remaining** \$120,000 would go toward materials and contracting of services to **repair** existing water delivery systems - pipes and ditches; and include power costs.

After the first 3 years the annual operation and maintenance costs for the existing delivery system would drop to \$125,000 and remain constant thereafter. Approximately \$50,000 would go toward salary and benefits for 1 maintenance employee, and \$75,000 would be available for repair, maintenance, and operating costs.

Water Drainage Pattern

Concerns have been raised regarding the effects on industrial development of establishing a wildlife area at **Conforth** Ranch (see public interest survey). One of these concerns, the preclusive use of a portion of the area for a purpose other than industrial development, cannot be dealt with in this paper. The portion in question, Section 13 **T5N R28E WM**, has high wildlife value and potential and would be difficult to sacrifice in any alternative considerations.

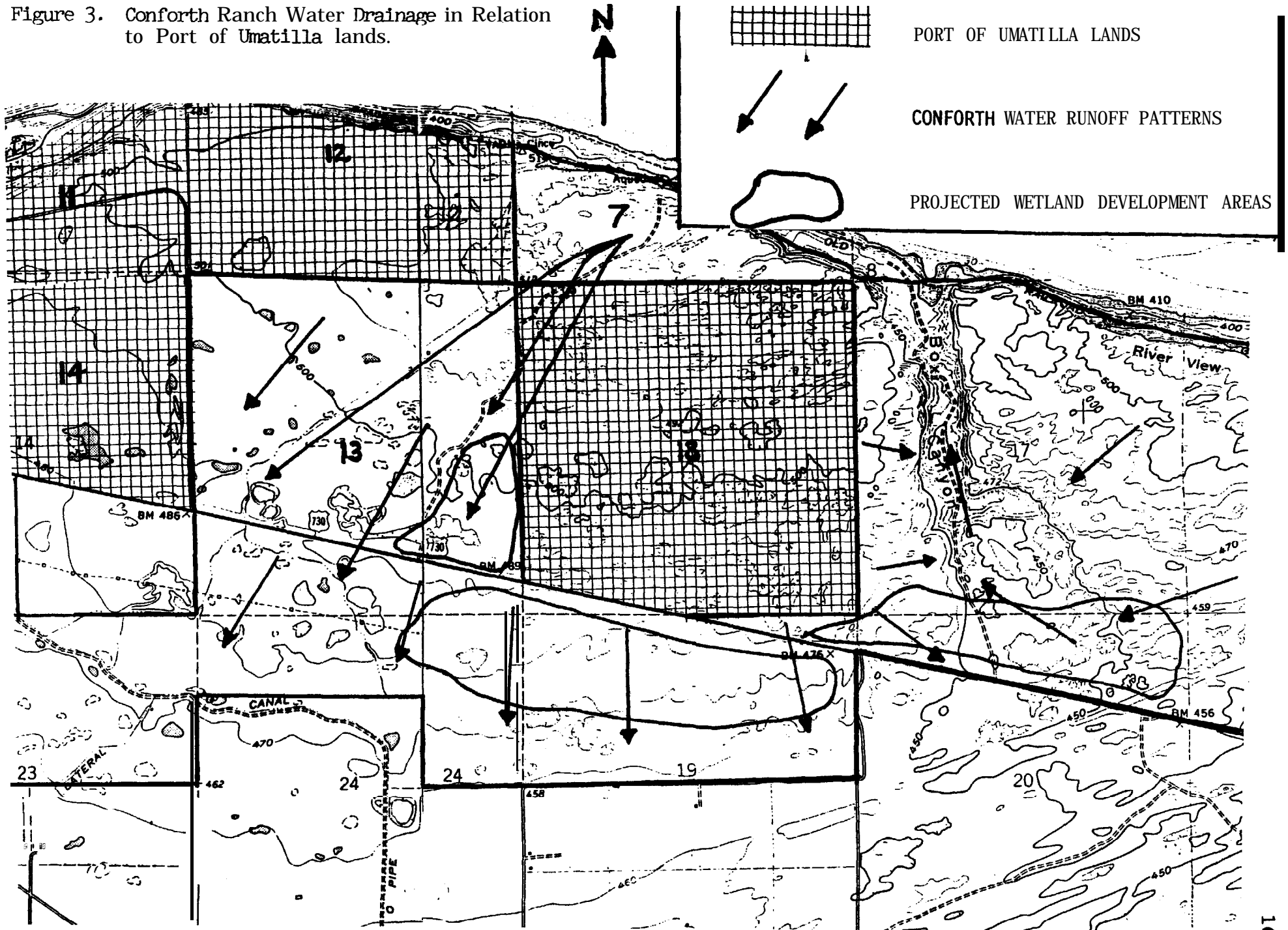
A second concern, impacts of water runoff onto Port of Umatilla development lands, also largely relates to Section 13. This question may not be adequately answered without detailed site and engineering studies, which are unavailable and beyond the scope of this report. A cursory review, however, does not point to an existing serious impact, or to a problem which could not readily or reasonably be corrected or controlled.

Irrigation on the ranch presently occurs from about mid-April until early October. Figure 3 suggests general drainage patterns and probable movement of **Conforth** irrigation water, dispersed from Section 7 and applied in Section 13, in relation to Port of Umatilla lands in Sections 11, 12, 14, and 18. These patterns are based on topography maps, visual evidence and on wetland delineations given in Figure 2. The topography and natural drainage pattern appears to help prevent extensive movement of irrigation water onto Port lands.

The location of present concern is the border between the Port's Section 14 and **Conforth** Ranch Section 13. Surface water flows from Section 13 into Section 14 as indicated by drainage lines in Figure 3, although the ingress does not appear to be a very serious problem at this time. Concern has been raised, however, about increased water use and greater impact under future wildlife area practices. It should be emphasized, as shown in Figure 3, that no major increased use of water for wildlife would be proposed for Section 13, especially in areas that would subsequently drain to Port land.

The existence of **Conforth** irrigation water on Port Section 14 may be caused to a substantial degree by flow through culverts placed under the north-south road bisecting the two sections. These culverts were installed for the purpose of irrigating Port land for pasture under a Port lease with Mr. Conforth. This arrangement is no longer being pursued, yet the culverts continue to pass water onto Port land. The Port has indicated that the blockage of a culvert pipe appeared to stem the flow of water considerably. Other remedial measures, such as ditching along the road, are available as additions to closing the culverts. We feel this concern can be effectively addressed.

Figure 3. Conforth Ranch Water Drainage in Relation to Port of Umatilla lands.



SURVEY OF PUBLIC INTEREST
IN WILDLIFE AREA ESTABLISHMENT

The approach for determining public interest in the use of **Conforth** Ranch as a wildlife area **was** to conduct detailed mailings and telephone interviews with a representative array of individuals, interests, and organizations. A selected list of potential contacts was developed by soliciting names from knowledgeable individuals. Telephone contact was made with prospective parties, and was followed up with **an** information package mailing which described the wildlife losses, mitigation program, and wildlife **area** proposal. Interviewees were contacted again at later dates by telephone to determine their response to the information and the proposed project. These interviews were undertaken in November and December, 1990. Fifteen responding parties among approximately twenty contacts are summarized in this report. About equally represented are the local business/development community (**20** percent), irrigation/agriculture/ranching interests (27 percent), wildlife agencies/interests (**20** percent), and local/State/Federal government in general (33 percent). Although numbers of contacts were not extensive, the sample was unbiased and intensive for better delineation of issues, and is adequate to demonstrate a supportive majority. Funding constraints of the study contract prevented more extensive work on this topic.

Supportive Comments

The majority (about two-thirds) of the respondents were supportive of the **Conforth** Ranch wildlife area concept, whereas one fourth **were** opposed and the remaining party was neutral. The general types of benefits identified by supportive commentators include the following:

1. A common view was that provision of a quality public use area in this location would be welcomed by many area residents. Public wildlife uses have been declining over the years in the area, and have been precluded on the ranch in recent years because of private hunting and other leases, angering some residents. The ranch location adjacent to a major highway was seen as providing high potential for public uses such as interpretive nature programs, wildlife viewing, hunting, and other related activities in addition to important wildlife protection and enhancement.
2. Concern was expressed about the potential loss of valuable wetlands on the site should it instead be developed for industrial purposes. According to the Corps of Engineers and County planning personnel, wetlands are scarce or "almost non-existent" in the area and the county.
3. A Corps of Engineers biologist stated that use as a wildlife area would fit in well with the Corps plans and activities at the McNary Project because the ranch is contiguous with Project lands and near other public land. The Corps and the manager of the Umatilla National Wildlife Refuge commented that **Conforth** wildlife benefits are and would be substantially enhanced by nearby McNary reservoir since habitat diversity is provided (pothole wetlands, feeding and breeding areas, reservoir resting area, etc.).
4. A number of commentators noted the important wildlife resource values of the **Conforth** property, particularly as a waterfowl and shorebird

use, production, and migratory stopover area. They also noted its past beneficial uses **for** wildlife viewing **and** waterfowl harvest. Several commentore believed the property was best suited **as a** wildlife management area.

5. Moat supporters stated a desire for multiple uses of the area (viewing, hunting, interpretive, photography, etc.).
6. **The Oregon Department of Land Conservation and Development (DLCD) supports** use of **Conforth Ranch as** a wildlife management area (Appendix B.4). DLCD states that **even** though the County has zoned **a** smaller portion **of the area** as industrial, the designation is not effective unless the County can justify **an** exception to Oregon's **statewide** Planning Goals **or** include the lands in the City of Umatilla's Urban Growth Boundary.
7. Another commentor felt that because of the important wildlife **values** planning should not be suspended because of conflicts in land use on a portion of the property, since agreements of some **form** may be possible.

Areas of Concern

Oppoition or notable concern was expressed by four of the respondents, and included the following **topics**:

1. The principal area of concern with development **of** a wildlife management area at **Conforth** Ranch is the effect it would have on **(1)** adjacent Port of Umatilla industrial development lands (a Port **concern**), and **(2)** future use for industrial development of a portion of the proposed wildlife area which abuts the Umatilla Urban Growth Boundary and is presently zoned industrial by the county. **The Port's** concern for its own lands is primarily related to existing or future water use on **Conforth** land and the effect this might have in causing ponding or wetland development on Port land **(Appendix B.1)**.

Notes: The County's industrial zoning in Section 13 represents less than 20 percent of the area proposed for wildlife development. Industrial development of this area would clearly require water and land use changes that would adversely impact existing wetlands, which are in serious decline nationally. The local zoning is in limbo, **and the area cannot** presently be used for industrial development according to the Oregon Department of Land Conservation **and** Development. **Conforth** water impacts on adjacent Port lands apparently has not been studied, however, most new water developments would be a considerable distance to the east of the Port property. This topic is addressed in detail in the report section on water delivery system.

2. A second area of concern is **(1)** the cost of maintaining the **Conforth** area wetlands, **and (2)** the cost of land acquisition. The Umatilla Electric Cooperative was concerned about the cost of maintaining "artificial" wetlands at the site and any possible future cutbacks of water rights. County Commissioner Hansell voiced similar concern about the artificial nature of wetlands supported by pumping from the Columbia River. The Port

representative believed the cost of land, based on the asking price, was much too high.

Notes: Pumping from the Columbia River does contribute substantially to the duration and extent of wetlands on the area, but a portion of the wetlands (especially those south of Highway 730) do not depend solely on water from the **Conforth** pumps for their existence. Water use would serve a dual purpose for wildlife food and cover and associated wetland maintenance. The acquisition cost of the property is unknown. Substantial cooperative funding promised by waterfowl conservation groups would reduce ratepayer costs.

3. A couple of respondents wondered whether existing natural wetlands could be protected in the area or elsewhere as mitigation rather than sustaining "artificial" wetlands at **Conforth** ranch.

Note: Wetlands are scarce in the area and County according to three respondents, and existing wetlands are already protected by several State and Federal laws. Habitats other than wetlands are present which have also been identified for mitigation. A primary value of the **Conforth** area is its high enhancement potential, which will produce a greater concentration of mitigation and fulfillment of BPA obligations.

4. The Umatilla Electric Cooperative expressed concern over potential loss of revenue with development of a wildlife area at **Conforth** Ranch. Presumably this could include existing **Conforth** area revenue if BPA were to direct supply pumping power, as well as future revenue lost from industrial development activities that would be precluded by use of the area for wildlife purposes'.

Note: BPA has indicated verbally it does not intend to direct supply pumping power. If, as Oregon's DLCD indicates, the area would not be approved for industrial development, then this potential revenue would not be realized.

5. County Commissioner Hansell noted that parts of the proposed wildlife area were dry areas and not wetlands.

Note: The largest habitat losses at McNary Dam were **shrub-steppe-grass** and other upland wildlife habitats, which will also be mitigated. To the extent these other habitat types are present in the proposed area, which is substantial, they will provide mitigation for losses of habitats other than wetlands at the McNary Project.

Areas to Address

There were a few comments which represent neither positive or negative viewpoints, but which were thought to warrant consideration if and as plans progressed. These included a need for public involvement in decision-making and development of management plans, consideration of impacts of wildlife on adjacent properties, noxious weed control (and **russian** olive control), and seeking to work out any conflicts with development interests **so** that benefits can be realized. The attached Soil Conservation Service letter provides a good review of these considerations (Appendix B.2).

Supportive Respondents

1. Brent Lake (Oregon Land Conservation and Development Commission)
2. Bill Porfily (Manager, Stanfield - Westland Irrigation District)
3. John Walchi (area farmer)
4. Darrell Sunday (Corps of Engineers, McNary Project)
5. Tyler Hansell (area farmer)
6. Karl Niederwerfer (SCS, Columbia-Blue Mountains RC & D)
7. Charlie Kik (neighboring rancher)
8. Roy Ellicker (National Wildlife Federation)
9. Morris LeFever (Manager, Umatilla National Wildlife Refuge)
10. Don Wilt (Oregon Department of Fish and Wildlife)

"Neutral" Respondents

Dennis **Olson** and Bob **Perry** of the Umatilla County Planning Department indicated that establishment of a wildlife area at **Conforth** would hopefully resolve long-standing issues associated with land use. They indicate their planning documents identify the **Conforth** Ranch area ("**McNary** Potholes") as an Oregon Goal 5 site, which identifies the wetland values, and also note the general scarcity of wetlands in the County. The attached County planning documents (Appendix 8.6) provided by them identify the **Conforth** wetlands as "**highest value** - deserving of special protection", a rating achieved by only two other of the County's 30 significant wetlands identified in the report. The "**McNary Potholes**", as shown in County documents, are also identified as a significant habitat area lacking protection in the Oregon Natural Heritage Program of the **Nature** Conservancy.

The Umatilla County Planning Department has also provided correspondence clarifying the question of land use zoning for the Section 13 portion of the **Conforth** property (Appendix B.3 and B.5).

Negative or Mostly Concerned Respondents

1. Joe Burns (Hermiston Development Corporation)
2. Steve Eldredge (Umatilla Electric Cooperative)
3. Bill Hansell (Umatilla County Commission)
4. Byron Grow (**Port** of Umatilla)

CONTAMINANT SURVEY

A Level I, **Preacquisition** Environmental Contaminants Survey was conducted on **Conforth** Ranch on December 17, 1990 (Appendix **C**). The **onsite** visit included an interview with Mr. Conforth.

Various farm and household wastes were found concentrated in two areas and discarded equipment was scattered over the property. The **Conforth** Ranch does not appear to **present a** contaminant threat to fish and wildlife or a liability to an eventual management **agency**. Abundant wastes associated with the **property** need to be removed and will require heavy machinery to do so. Once debris is removed another Level I Survey should be conducted to assure buried **garbage** did not contain **any hazardous substances**. The dump and farm machinery sites should be capped with an appropriate depth of clean soil to preclude wildlife from **any past spills** which may have occurred.

OWNER INTEREST

The present owner, Mr. Conforth, **is** interested in the **ranch** becoming a public wildlife area. He **is** a willing **seller**.

SUMMARY

Analysis of wildlife habitat values presently existing on the **Conforth** Ranch demonstrates that a variety of wetland resources and other wildlife values are present. This finding supports the earlier designation of the "**McNary** Potholes" in the Umatilla County comprehensive planning documents as "Highest wildlife value - deserving of special protection", and an inventory by the Nature Conservancy under the Oregon Natural Heritage Program in the Oregon Natural Areas Umatilla County Data Summary.

These values exist despite the fact that the habitats are presently overgrazed and degraded by present land use activities. Under management and enhancement, a projected 110 percent improvement in wildlife values would be realized over present conditions, representing an important opportunity for net habitat gains.

Although much of the area's wetland habitat exists as a result of irrigation pumping from the Columbia River, the water-ponding character of the **Conforth** scablands maximizes the cost-effectiveness of wildlife benefits derived from water use for wildlife food production and habitat development.

Present **Conforth** water delivery and use is estimated to cost \$50,000 per year. Subsequent to a period of system upgrading and associated costs, long-term water delivery is estimated to cost \$125,000 per year.

Some runoff of irrigation water onto Port of Umatilla lands occurs as a result of land topography and likely also to presence of culverts placed for that purpose in the past. We believe that this problem will not be aggravated with proposed wildlife management activities, and can be remedied.

A survey of local public interest in wildlife area establishment, conducted evenly across a number of interests, demonstrated general support for the concept. Two-thirds of respondents were in favor, one-fourth were opposed, and the remainder neutral. Those opposed were primarily concerned about effects on industrial development, and secondarily about costs of mitigation.

A contaminants survey of the property did not reveal any materials that would be a cause for concern associated with future use as a wildlife area.

The present owner, Mr. Conforth, is interested in selling his ranch and would like to see it become a public wildlife area.

In view of the above, the Fish and Wildlife Service strongly recommends that the Northwest Power Planning Council and Bonneville Power Administration take the necessary steps to acquire the **Conforth** Ranch for partial mitigation of the wildlife losses associated with **McNary** Hydroelectric Project.

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APPENDIX A

Unpublished Evaluation Species Models Used in Wildlife Assessment for the **Conforth** Ranch.

1. Spotted Sandpiper
2. Canada Goose
3. California Quail
4. Mallard

Spotted Sandpiper

Geoffrey L. Dorsey

Bent (1929) stated that the spotted sandpiper (*Actitis macularia*) was a widely distributed species, occurring on the margins of sandy ponds, sea shores, and rocks bordering streams.

Hays (1973) reported that spotted sandpiper nests were located in grassy upland areas of an island. **Oring** and **Knudson** (1973) stated that spotted sandpipers used all the sparsely vegetated areas on an island as nest sites. **Bent** (1929) stated that nest sites were variable; high areas of sand island in high, sedge grass, on grassy, overgrown gravel bars, in driftwood piles, under extending tree branches, under rock ledges, and under decayed logs representing reported nest sites. Nest sites are close to water (**Bent** 1929). **Oring** and **Knudson** stated that spotted sandpipers nest in sparsely vegetated areas. **Bent** (1929) stated that spotted sandpipers will not nest in densely wooded areas. **Oring** and **Knudson** (1973) reported 3/98 nests beneath dense shrubs or trees. **Oring** and **Knudson** (1973) attributed nest placement in a wooded area on an island to disturbance by fisherman and intensive aggressive encounters of sandpipers for nesting territories. Wooded areas represent marginal nesting habitat (**Oring** and **Knudson** 1973). **Oring** and **Knudson** (1973) reported no spotted sandpipers nesting in densely wooded areas surrounding a lagoon. **Bent** (1929) reported that spotted sandpipers nest just above the highwater mark on tree-lined shores. **Stout** (1967) stated that nests are often remote from water.

Oring and **Knudson** (1973) reported that initial nest site selection occurred when scattered herbaceous and grassy cover was less than 10 cm in height (sandy area). **Oring** and **Knudson** (1973) observed four nests in herbaceous cover 0.5 m in height and 30 m or less from the beach. Three nests were located in mixed deciduous woods 8-13 m high and 20-50 m from the beach. **Miller** and **Miller** (1948) stated that all nests were situated to be well shaded at all times. **Miller** and **Miller** (1948) reported that nests were at least 12.19 m apart. **Miller** and **Miller** (1948) observed 35/39 nests in thickly growing grass 15.24 - 76.2 cm in height.

Hays (1973) stated that spotted sandpipers have a nesting site fidelity; 66 percent of marked birds returning to the previous years nesting area.

Stout (1967) reported that spotted sandpipers were territorial in winter.

Miller and **Miller** (1948) reported a colonial breeding situation, 38 pairs/5.46 ha. **Kuenzel** and **Wiegert** (1973) reported a territorial size of approximately 1.21 ha per bird. **Heideman** and **Oring** (1976) stated that 4-5 pairs/6.8 ha was a greater concentration than typically encountered. **Heideman** and **Oring** (1976) reported 10 active nests/1.6 ha in a dense deciduous woods to sparsely vegetated beach habitat.

Spotted sandpipers feed primarily on insects, especially aquatic insects.

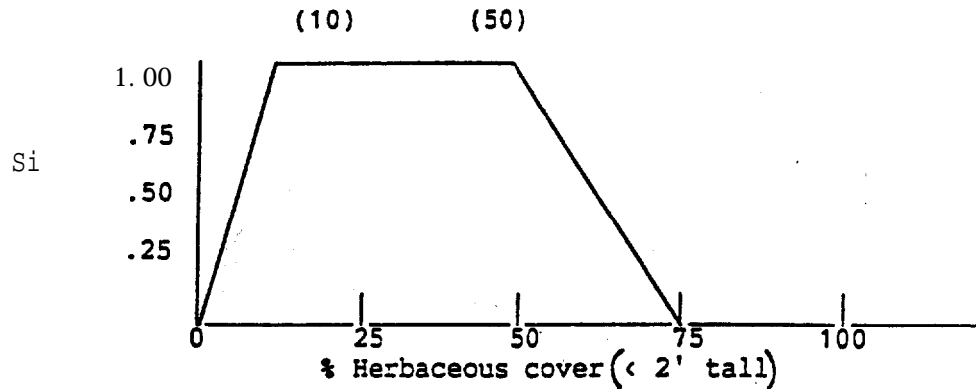
SPOTTED SANDPIPER SUITABILITY INDEX

Nesting Cover (V1)

A mosaic of herbaceous ground cover with an overall density of less than 50% and less than 2' high (an overstory of deciduous trees can be present if the ground cover requirements are met).

Flooding probably not a significant problem as the sandpiper is quite capable of re-nesting if necessary.

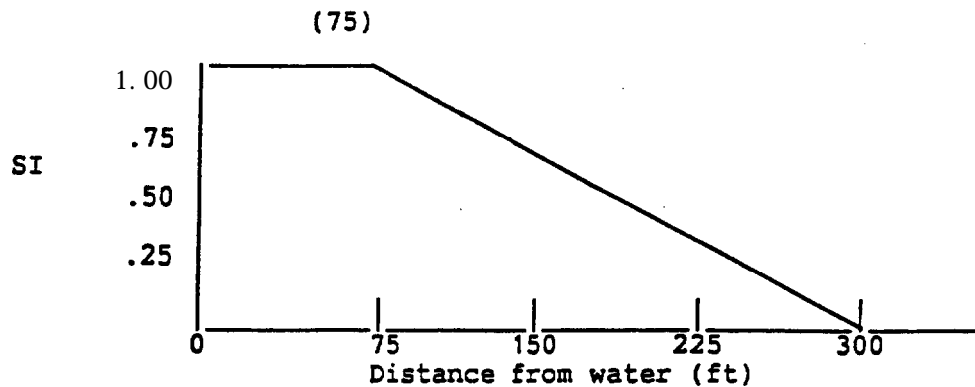
[150 ft. transect, 25 ft. intervals. Begin transect where V3 crosses daily high water mark and continue inland 150 ft.]



Nesting distance from water (V2)

Optimum Nesting habitat is within 75 ft. of water.

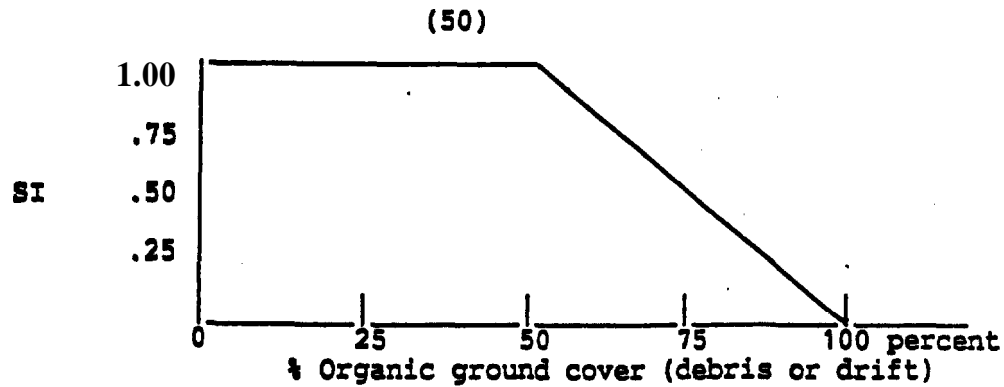
[measure minimum distance between nesting habitat and water]



Foraging habitat (V3) -

Open or sparsely vegetated shorelines (gravel, riprap, or sandy substrates) within 150 feet (45 m) of water (normal pool) which may contain some organic debris or drift.

[Begin transect at EOW and go inland 150 ft. with measurements every 25 ft.)



Modal Equation

$$HSI = \frac{V1 + V2 + V3}{3}$$

Spotted Sandpiper

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CANADA GOOSE MODEL

This model is a modification of the Canada goose model developed by Dave Lockman et. al. for the evaluation of Canada goose nesting and brooding habitat on the Snake River at Palisades Reservoir. This modification was developed by Patrick Wright, Larry Rasmussen, and Jim Bottorff of the Portland Field Station, Fish and Wildlife Service and The Dalles, John Day, and McNary wildlife loss assessment HEP team members for use in describing the quality of nesting and brooding habitat in the vicinity of these projects.

Nesting HabitatIslands (V1)

	<u>SI Value</u>
Stable islands present; islands have relatively high shoreline/area' ratio; cover indicative of stability; ground cover on portions of island 4"-8" high.	0.8-1.0
Stable islands present; relatively low shoreline/area ratio; cover on island <4" or >8".	0.5-0.7
No stable islands, or islands with limited or no cover.	0.0-0.4

Brood Rearing Habitat

Late April - July

Foraging Area (V3)

	<u>SI Value</u>
Distance from nesting areas to foraging zones ≤ 1 mile (preferably' within site of the nesting area); forage ≤ 4 " tall and \geq one acre in size; foraging zones total ≥ 10 acres per mile of river; access to foraging zone within 25 meters of open water and not precluded by physical obstruction or dense vegetation (predator cover).	0.7-1.0
Distance from nesting areas to foraging zones ≥ 1 and ≤ 2 miles; forage ≤ 4 " tall and \geq one acre in size, foraging zones total 5 to 10 acres per mile of river; > 25 meters but < 50 meters from open water (escape cover).	0.4-0.6
As above except foraging zone > 2 miles from nesting areas and > 50 meters from open water (escape cover).	0.0-6.3

Model Equation

$$HSI = \frac{V1 + V3}{2}$$

June 1978

CALIFORNIA QUAIL
Grassland/Agricultural Type

General

California quail (*Lophortyx californicus*) are year-around residents in this **Ecoregion** and are most abundant in the brush-grassland successional stage in areas where water is available (Crawford 1977). California quail habitats include brushy thickets, scattered low branched **trees**, grassland, dry and irrigated cropland, orchards, and vineyards (Sumner 1935; Emlen and Glading 1945; and Edminster 1954).

Food Requirements

Adult quail are essentially vegetarians (Edminster 1954). The California quail feeds in open areas with abundant annual herbaceous vegetation where ground cover is not dense enough to impede movement (Emlen and Glading 1945; Edminster 1954; and Crawford 1977). Highest densities in brush-grassland habitat types in Oregon were found in areas with bare ground percentages of 30% and **45%** (Crawford 1977). Seeds comprise **60 to 75%** of the year round diet, and greens account for 25 to **30%** of the diet (Edminster 1954). Acorns and berries are sometimes eaten by quail in small quantities in late summer and fall. Legume seeds (and some leaves) comprised 25 to **35%** of the annual diet. **Grasses, including** grains, account for 10 to **25%** of the annual diet while annual weed seeds account for 20 to 60%. Woody plants account for only 3 to 5% of the diet. The berries of snowberries (*Symphoricarpos* sp.), brambles (*Rubus* spp.), and poison oak (*Rhus diversiloba*) make up a small part of the summer and fall diet. The most important plant families in the diet of quail in California were legumes (Fabaceae), grasses (Poaceae), **geraniums** (Geraniaceae), and composites (***Asteraceae***) (Sumner 1935). Insects account for up to one-third of the diet of young quail during their first few weeks of life (Edminster 1954).

Water Requirements

Surface water is required by California quail throughout the year although succulent foods meet some of the water needs for quail within the humid Pacific coastal belt (Edminster 1954).

Cover Requirements

California quail require cover for feeding, roosting, escape, loafing, and nesting (Edminster 1954). Cover needs associated with reproduction are discussed under Reproductive Requirements.

The best food-producing cover types are open brushlands and non-brushy grasslands (Edminster 1954). The usefulness of cultivated fields, especially small grains and hay, as feeding areas depends on the proximity of the fields to escape cover. Areas where clean farming methods are used do not provide suitable feeding cover for quail. Dense stands of brush or grasses or closed canopy stands with little understory are deficient in food supplies or do not provide suitable feeding cover (Sumner 1935).

Dense low shrubs, trees, trailing vines, weed patches, dense grass, piles of debris, and even rockpiles serve as escape cover (Emlen

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and Glading 1945; Edminster 1954). Crawford (1977) found that blackberry brambles were used almost exclusively for escape cover in the Willamette Valley. Escape cover is characteristically lower than good roosting cover and taller and denser than good nesting cover (Edminster 1954).

Escape cover is also used as loafing cover. Optimal escape and loafing cover is provided by clumps of plants 10 to 20 feet (3-6 m) in diameter, and spaced not more than 200 feet (61 m) apart (Emlen and Glading 1945).

Quail roost in areas of dense foliage (either tall shrubs or scattered trees with low-growing, densely foliated branches) with suitable roost sites from 15 to 25 feet (4.5-7.6 m) above ground (Sumner 1935; Edminster 1954). In California, thickly branched trees and shrubs from 5 to 30 feet (1.5-9.1 m) tall provide suitable roosting cover with at least one roosting site per 30 to 40 acres (12.1-16.2 ha), or at 0.25 mile (0.4 km) intervals (Emlen and Glading 1945).

Reproductive Requirements

California quail require areas of low vegetation that provide concealment and shade for nest sites (Sumner 1935; Emlen and Glading 1945; and Edminster 1954). Nests are on the ground in a variety of locations and are frequently found in edge situations (Edminster 1954). Young quail require thick, brushy cover. Broods occupy areas of 10 to 30 acres (4-12 ha) by their eighth week. Broods combine to form coveys as the summer progresses.

Special Habitat Requirements

No special habitat requirements were found in the literature.

Interspersion Requirements

Quail require a mixture of cover types including open areas with abundant annual herbaceous vegetation, dense foliage from 5 to 30 feet (1.5-9.1 m) tall for roosting, clumps of low plants for escape and loafing, suitable ground sites for nesting, and sources of surface water. Optimal habitat conditions consist of a high degree of interspersion of herbaceous and woody cover and water sources within a small area. In California, a cruising radius of approximately 50 feet (15 m) has been observed (Sumner 1935). In Oregon, coveys of quail ranged up to 0.25 mile (0.4 km) from their evening roost site (Yadon 1954). Fall and winter range of coveys is limited by the amount of protective shrub cover (McMillan 1964). Covey site appears to be influenced more by food supply and adequacy and juxtaposition of shelter in relation to food supplies than by any other factor (Edminster 1954).

Special Considerations

Clean farming methods that reduce brushy fence rows, weedy patches, and similar brushy edges reduce the suitability of the habitat for California quail (Sumner 1935; Edminster 1954). Overgrazing may reduce brushy cover to the point that habitat becomes unsuitable for quail (Edminster 1954). Irrigated croplands provide both surface water and food but these areas often lack suitable shelter unless brushy cover is left.

June 1978

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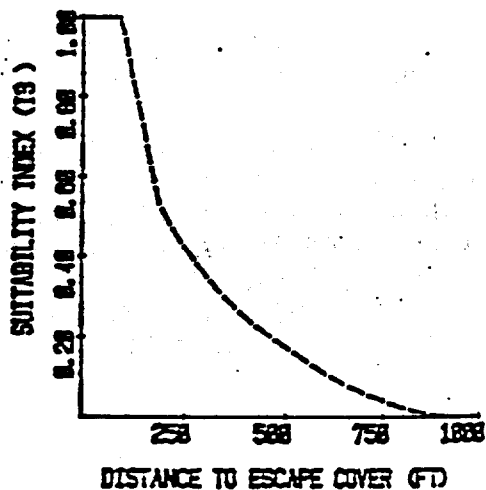
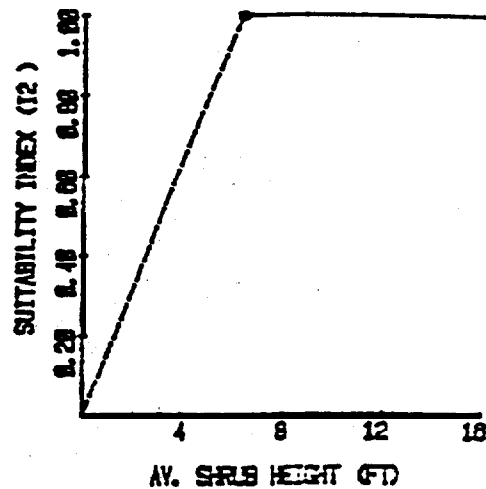
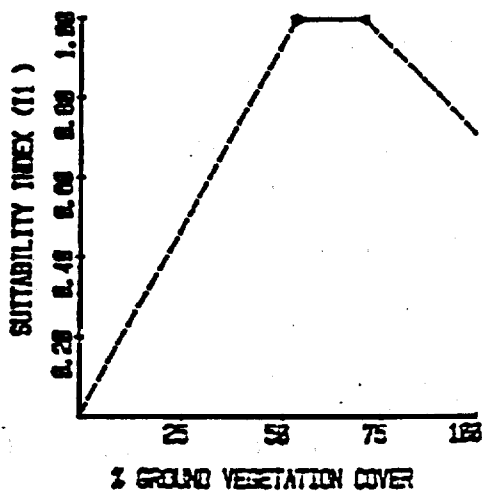
ADDITIONAL REFERENCES

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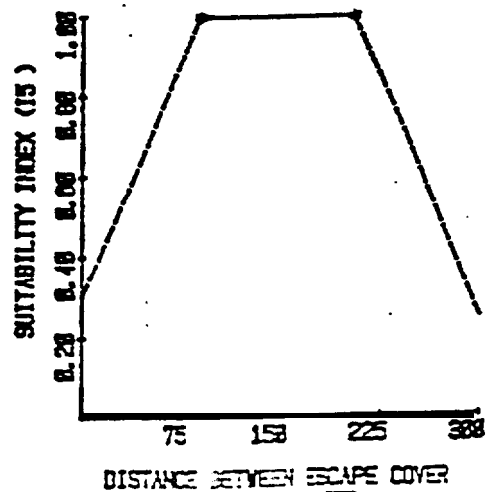
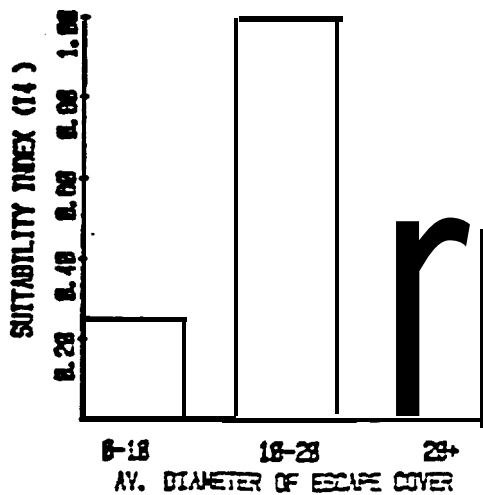
JUNE 1978

CALIFORNIA QUAIL

GRASSLAND/AGRICULTURAL



ESCAPE COVER-DENSE GROWTH OF SHRUBS, WIDE TANGLED, OR DENSE TALL GRASSES OR FORBS GREATER THAN 8 INCHES TALL



June 1978

HABITAT SUITABILITY INDEX

California Quail in Grassland/Agricultural Type

Ecoregion 2410

$$\text{Cover Value (X)} = \frac{I_1 + I_2 + (3 \times I_4 \times I_5)^{1/3}}{3}$$

Where: I_1 = Suitability Index (SI) of percent ground vegetation cover.

I_2 = SI of average shrub height.

I_3 = SI of distance to escape cover.

I_4 = SI of average diameter of escape cover patches.

I_5 = SI of distance between escape cover patches.

The Habitat Suitability Index is XI.

MALLARD MODEL

This model was developed from information provided in several different models including: (1) the Draft Habitat Suitability Index model, Mallard (Breeding), U.S. Fish and Wildlife Service, Division of Ecological Services, Sacramento, California, July, 1985; (2) Draft Habitat Suitability Index Model, Mallard (Wintering), U.S. Fish and Wildlife Service, Division of Ecological Services, Sacramento, California, July, 1985; and (3) Habitat Suitability Index Models: Dabbling Ducks, by Patricia D. Rice, U.S. Fish and Wildlife Service, Great Basin Complex, Reno, Nevada, February, 1984. These models were modified for The Dalles, John Day, and McNary wildlife loss assessment by HEP team members according to information provided by the local, state, federal, and tribal biologists.

General

The mallard (Anas platyrhynchos) utilizes this portion of the Columbia basin for both nesting and wintering habitat. Typical mallard habitats include riparian herb; emergent wetlands, occasionally some agricultural lands (grain crops) and shrub/steppe areas, and open waters.

Wintering Habitat

Wintering populations of mallards are often congregated around the shallow water **graveled areas** associated with islands where they are protected from **human** disturbance and predators. Large numbers of mallards utilize backwater areas and slower velocity portions of reservoirs (especially John Day and McNary Reservoirs) and rivers for resting. The main **reservoir** area with higher velocities and barge traffic is only used occasionally. Daily flights to nearby agricultural crops (cereal grains and corn) provide much of the food requirements in the mid-Columbia basin area.

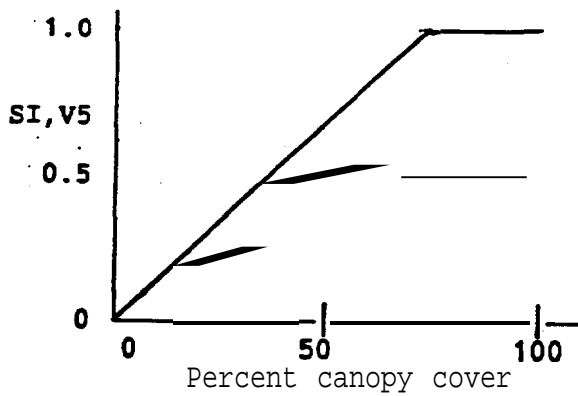
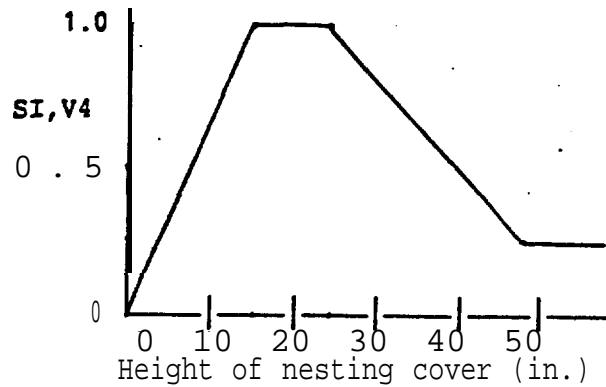
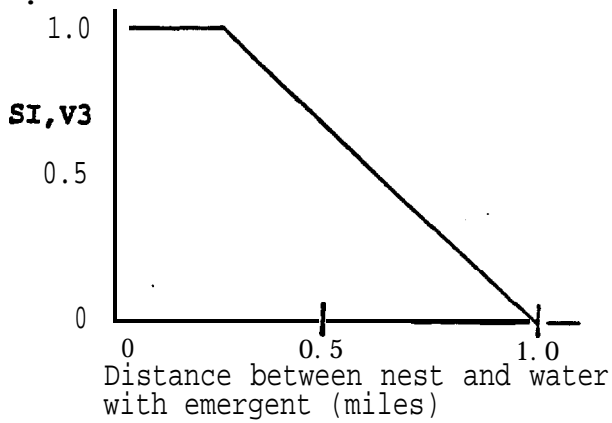
Nesting Habitat

Nesting commonly occurs in a riparian herb cover type that is located in the vicinity of emergent wetlands. Xerbaceous vegetation between 15 and 24 inches tall with at least a **75 percent canopy** cover is preferred. Mallard nests are found in greater numbers and have a higher success rate if they are within **1/4** mile of water with emergent vegetation. The emergent vegetation provides **cover** and rearing area for the juvenile birds. Emergent wetlands with 40 to 60 percent **vegetative cover** (relative to open water) are preferred. **The** success of an otherwise optimum nesting area can be significantly reduced by disturbance from people and dogs.

MALLARD HABITAT SUITABILITY INDEX

NESTING

Cover Types: **Riparian Herb and Shrub/Steppe/Grassland**

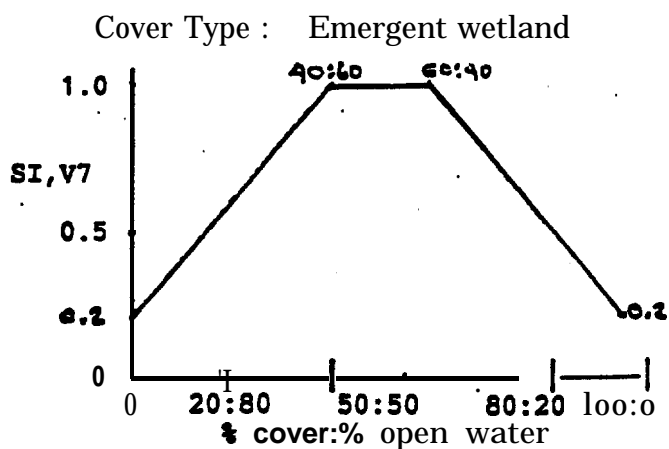


v6, Disturbance by people and dogs

	S.I.
Low	0.8-1.0
Medium	0.4-0.7
High	0.0-0.3

Model Equation

$$HSI = \frac{v3 + v4 + v5}{3} \quad XV6$$



Model equation

$$HSI = v7$$

WINTERING

Cover Type: Open Water

V-1, Velocity of open water

Preproject

main river **SI** = 0.5
backwater **SI** = 0.8

Postproject

main river **SI** = 0.7
backwater **SI** = 0.9
barge channel **SI** = 0.4

Cover Type: Agricultural (food crop)

V-2, crop management

For the mid-Columbia Basin projects the **HEP** study team **assumed** that both **pre-** and **post-project crop** management provided an adequate mallard **food supply**. Food supply is not a limiting factor.

Model equation for wintering mallard: $HSI = V-1$

COREY, BYLER, REW, LORENZEN & HOJEM

ALEX M. BYLER
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STEVEN H. COREY
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P.O. BOX 218
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TELEPHONE
(503) 276-3331
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(503) 276-3148

December 26, 1990

GEORGE H. COREY
OF COUNSEL

Sent Via Telecopier to 231-6195

U.S. Fish & Wildlife Service
Attn: Richard Giger
Portland Field Station
Suite 100
2600 S.E. 98th Avenue
Portland, OR 97266

Re: Proposed **Conforth** Ranch Wildlife Area

Dear Mr. Giger:

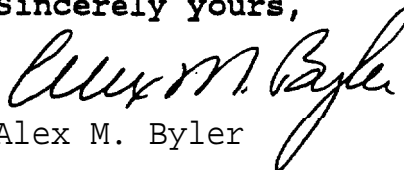
This will confirm the information I gave you by telephone on December 21, 1990.

Our **firm** represents the Port of Umatilla ("**Port**"). The Port has recently become aware of the planning being done in connection with the **Conforth** Ranch Wildlife Mitigation. Such plans appear to conflict with the Port's long-term goals for land owned by it in Sections 11, 12, 14 and 18, T. 5N. R. 28 E.W.M., Umatilla County, Oregon. The Port has acquired these lands with the intention of their being used for industrial activities.

The Port asks that its plans for its properties be noted. It also requests that it be given the opportunity to be consulted during the planning process.

To the extent the Mitigation Plan may directly or indirectly adversely affect the intended future use of the **Port's** adjoining lands the Port objects to the Plan.

Sincerely yours,



Alex M. Byler

AMB/a

cc: Northwest Power Planning Council, Attn: Mr. Peter Paquet

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DEC 28 1990

PORTLANDFIELDSTATION

United States
Department of
Agriculture

Soil Conservation
Service

RC&D Coordinator
17 SW **Frazer** Suite 40
Pendleton, OR 97801

SUBJECT: Resource Development Review

TO: Umatilla County Commissioners
Port of Umatilla
Umatilla County Soil & Water Conservation District

FOR: US Department of Interior Fish and Wildlife Service

REF. TO: **Conforth** Ranch proposed purchase for wildlife mitigation
under the Northwest Power Planning and Conservation Act
of 1980 (**P.L. 96-501**)

ASSISTED BY: Karl M. Niederwerfer, **RC&D** Coordinator

Date: January **4**, 1991

FINDINGS:

At the request of the chairman of Umatilla County Commissioners, the Columbia-Blue Mt. **RC&D** Area Inc. was sent a proposal for acquisition and development of a 2,860 acre **parcel** through funding by the Bonneville Power Administration. The parcel of land known as the **Conforth** Ranch, would be developed as a mitigation area for wildlife lost as a result of the **McNary** Dam on the Columbia River.

The **Conforth** Ranch is located on the south side of **Lake** Wallula, approximately 1.25 miles upstream of **McNary** Dam and extends to the vicinity of Hat Rock State Park. Approximately **1/3** of the property is south of highway 730 and it has **4** to 5 miles of Columbia River frontage.

Considerable acreage of the parcel is wet, although the soils in their natural state may not be wetlands. Comments from several sources indicate the wetlands are a result of irrigation ditches, and irrigation practices on neighboring properties and the ranch itself.

A two page summary of the mitigation proposal was submitted to the **RC&D** office by the US Fish & Wildlife Service for review comments. It is understood that details about the proposal and the actual plan for mitigation are still being developed. It is hoped the comments herein can be of assistance to the planning process. It is also understood the designation of this parcel as a "**lost** opportunity" project requires quicker and perhaps less thorough evaluation.

The overall idea to purchase and manage entire parcels or tracts for wildlife purposes and mitigation is positive. This is especially true since the land will continue to generate tax revenue that is comparable to the tax revenue currently generated by the private landowner. It is unknown by this reviewer, how the passage of Measure 5 would affect taxes on **the Conforth** Ranch in the event the purchase is made for wildlife use.

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The summary indicates the land will be managed by a state or **federal** agency. Some private, nonprofit organizations such as the Nature Conservancy also have management capabilities. With the use of trust funds from corporate donations and others, the land may be managed and developed by a private organization for wildlife as an alternative to management by state and federal agencies. This may present some advantages, as the trust fund could be a supplement or in lieu of rate payer funds, hunting fees, or tax revenues for the management.

The summary indicates changing the **Conforth** Ranch from the main use of agriculture to a wildlife area will generate local economic activity. Although livestock numbers will be reduced, grazing will be allowed as **a vegetation** management tool. The soil survey and photos indicates some irrigation of cropland, including pivot irrigation systems on the property. It is unknown to this reviewer if the **cropland** irrigation is still taking place or if it will continue once the main use of the property changes from agriculture to wildlife. In addition, the considerable wildlife habitat on the property could generate substantial economic activity already, particularly if it is currently open for hunting. The economic alternatives of being sold to other interests is also a consideration when taking credit for economic benefits.

The change in emphasis of the land use will also have an effect on neighboring properties. As wildlife increases on the **Conforth** Ranch, wildlife on neighboring properties can be expected to increase. Increases in geese, deer, coyotes and other wildlife may result in some crop damage. It is unknown if there are sheep or other livestock operations in the area that may be affected by predators.

Hunting pressures may also increase on surrounding properties. This could be an economic benefit to these areas but could also be a detriment to crops, fences, etc.

Another consideration in planning controls of the area are noxious weeds and potential **weed** problems. Current weed problems on the property are unknown, but the change in land use could affect weeds as well as vegetation beneficial to wildlife.

The trend in management of resources, economic development and numerous other programs is to involve local people in the process. This goes beyond simply sending in comments about a proposal such as is being done here or having public hearings in the local area. A healthy program will have local support and participation on a continual basis and this principle can be applied to this proposal as well.

RECOMMENDATIONS:

1. Any water rights on the **Conforth** Ranch should be maintained by the managing agency or private organization taking over the ranch. The acreage of wetlands these on site water rights are capable of supporting should be designated as the base amount for supporting wetland wildlife.
2. Plans for increased wetland acreage above the base amount that depend on adjacent property irrigation practices or conveyance systems are encouraged. However, off site water management practices or off site water management decisions should not be responsible for supporting wetland wildlife on the **Conforth** Ranch. If management practices by adjacent private landowners result in reduced wetlands on the ranch parcel, it should be recognized these areas should be managed for other wildlife if the on site irrigation can **not** maintain needed water tables.
3. Evaluate ballot Measure **5** and its effects on the land use change (if any) from agriculture to wildlife relative to tax revenue generated for municipalities and schools.
4. Evaluate any opportunities that may be available to **have** the management responsibilities turned over to a private organization, rather than a state or federal agency. These potentials should be compared to the requirements of the rules for mitigation of the Northwest Power Planning Council.
5. Explore the possibility of private trust funds for perpetual management of the parcel rather than rate payer, tax revenues or hunting fees.
6. If credit is to be given to economic benefits of the wildlife from the area, a full discussion and comparison of the economic benefits of the area in its present agricultural use and its existing wildlife populations should be made. A comparison of the economic benefits of alternatives for development by other interests should also be made.
7. A quantification of wildlife increases including those not prioritized for mitigation should be made. Their effects on neighboring lands, crops and livestock should be discussed.
8. Expected hunting pressure changes on neighboring properties should be discussed. Plans for control of wildlife populations through hunting or other means would also be of interest to people in the area.
9. It is recommended the County Weed Control District inventory the site for weed problems. The plan should include periodic inspection for noxious weeds and a means for their control.

10. A local citizen advisory board is recommended. The review board should be made up of local residents, wildlife organizations, Soil & Water **Conservation** District representation and others. This board should review the progress of the plan, receive citizen complaints and make recommendations to the managing agency or organization within the limits of the rules. This would help keep the public in touch with the program and give credibility of the project to the local people. It is suggested this board meet twice each year. The managing agency or organization should keep the board informed of activities and events of interest between meetings.

11. Address each of the recommended items 1 through 10 above and send responses to the Umatilla County Commissioners, Port of Umatilla and the Umatilla County **Soil** and Water Conservation District who **are** the three sponsors in Umatilla county of the Columbia-Blue Mt. **RC&D** Area Inc. Send a response copy also to the Columbia-Blue Mt. **RC&D** Area Inc.

Comment:

It appears the method of securing parcels with significant wildlife potentials is a suitable way to meet some of the wildlife mitigation requirements and rules established by the Northwest Power Planning Council. The important point to keep in mind is that various groups and landowners should be involved in the planning and management decisions. This will result in a broader perspective and a better plan that satisfies all concerns.

This review was made without on site investigation of the **Conforth** Ranch. It is based on soil survey data, information supplied by the US Fish & Wildlife Service and individual discussions. It is **understood** that some items recommended may already be addressed or planned. This reviewer did not attempt to place high or low significance to the recommendations.

This review is provided as a courtesy to the Umatilla County sponsors of the Columbia-Blue Mountain **RC&D** Area Inc. The opinions and recommendations are those of the **RC&D** Coordinator and not necessarily those **of** the **RC&D** Council or its sponsors.

The **RC&D** Council has not **assumed a resource review function** of any significance. The type of review provided herein is generally considered more of a function of the local Soil & Water Conservation District than that of the **RC&D** Council. At this time, with a lack of appropriate staff, it is difficult for the Umatilla SWCD to provide this **type** of service. It is not implied they would provide reviews of this nature if they had staffing, Other priorities may preclude this service being provided by the **SWCD**.



UMATILLA COUNTY PLANNING DEPARTMENT

Umatilla County Courthouse, 216 S.E. 4th ST., Pendleton, Oregon 97801
Phone: 276-7111, Ext. 252

March 1, 1991

Mr. Richard Giger
US Fish & Wildlife Service
2600 SE 98th Avenue, Suite 100
Portland, OR 97266

Dear Mr. Giger:

I would like to clarify one point raised in the draft **Conforth** Ranch Wildlife Mitigation Feasibility Study (January 1991).

On page 27, it notes that the "**local** zoning has not been acknowledged by the **state.**" Actually the County's Comprehensive Plan and land use regulations were originally acknowledged by LCDC in November 1985. However, the "**McNary Industrial Site**" (a portion of the **Conforth** Ranch) was appealed by 1,000 Friends of Oregon. In April 1987, the Court of Appeals remanded the Commission's **Acknowledgment** Order as it applied to the **McNary** site.

LCDC's remand of acknowledgment, dated June 11, 1987, stated:

The court supported the county's findings that the area is non-resource land and the county did not need to take an exception to Goals 3 and 4. The court questioned the LCDC finding that the heavy industrial is not an urban use and therefore need not be restricted within an urban growth boundary. The court remanded this site because LCDC has not explained whether or what type of heavy industrial uses may be considered as urban uses. [page 2]

So the Commission's action ("**continuance** order") required the following:

After resolution of the urban/rural issue by LCDC, the county either justify an exception for the industrial uses or include portions of the area inside the Umatilla Urban Growth Boundary. Portions of the site not included in the Urban Growth Boundary must be rezoned to appropriate rural zones.

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MAR 04 1991

LETTER TO RICHARD GIGER
CONTINUED

If industrial zoning is retained outside the urban Growth Boundary, the industrial uses allowed beyond those authorized at OAR **660-04-022(3)** will require an exception to Goal 14 (see OAR 660-14-040). If a portion of the area is included within the Umatilla Urban Growth Boundary, then the requirements of Goals 11 and 14 also **apply. [page 4]**

In a letter to Umatilla County Board of Commissioners Chairperson Jeanne Hughes, dated May 17, 1988, DLCD Director Jim Ross noted:

We understand that submittal of **this** work [revisions to the **McNary** site portion of the Comprehensive Plan] is contingent upon resolution of the Urban/Rural issue by LCDC.

To date, LCDC has not resolved the issue as directed by the Court of Appeals.

In summary, although originally approved by LCDC, the industrial plan designation and zoning is now **"in limbo"** until further action by LCDC; or until some specific use proposal (such as the wildlife **mitigation** plan or a specific use proposal by the Port) provides resolution of the issue.

Please let me know if you need further information on this matter.

Sincerely,



Dennis A. Olson
Planning Director

DAO:vt

cc: Northwest Power Planning **Council**
Brent Lake, DLCD
Board of Commissioners

Oregon

DEPT. OF LAND
CONSERVATION
AND
DEVELOPMENT

March 6, 1991

Mr. Richard Giaer
Northwest Power Act Coordinator
U.S. Fish and Wildlife Service
2600 SE 98th Ave. Suite 100
Portland, OR 97266

Dear Mr. Giger:

The Department has reviewed your paper on the **Conforth** Ranch Wildlife Mitigation. Brent Lake, the Department's Field Representative for Eastern Oregon, working with Umatilla County, reviewed the material that you sent on December 19, 1990.

On April 22, 1987, in response to a Court of Appeals remand, the Land Conservation and Development Commission granted Umatilla County a continuance to revise the planning and zoning for the **McNary** Industrial Site in Umatilla County Comprehensive Plan. The Commission directed the County to either justify an "exception" to Oregon's Statewide Planning Goals for the industrial designations or include those lands inside the City of **Umatilla's** Urban Growth Boundary. Portions of the site not included in the UGB require an exception or must be rezoned to a appropriate rural zone.

The Department supports the proposed acquisition and dedication to wildlife of the 2,860 acres known as the **Conforth** Ranch. The application of a rural zone, to this land, such as Umatilla County's Grazing/Farm (**GF**) zone, would comply with the **LCDC's** continuance order and the Court of Appeals' decision.

If you have any questions, please contact Brent Lake at 388-6424.

Sincerely,

Susan Brody

Susan Brody
Director

BL/drw
<eastcen>

cc: Brent Lake
Dennis Olson, Umatilla County

BARBARA ROBERTS
Governor

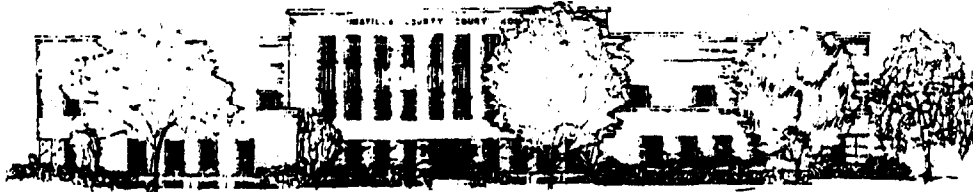


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PORTLAND FIELD STATION



UMATILLA COUNTY PLANNING DEPARTMENT

Umatilla County Courthouse, 216 S. E. 4th ST., Pendleton, Oregon 97801
Phone: 276-7111, Ext. 252

March 11, 1991

Mr. Richard Giger
US Fish & Wildlife Service
2600 SE 98th Avenue, Suite 100
Portland, OR 97266

Dear Mr. Giger:

I received a copy of the letter from DLCD to you dated March 6, 1991. That letter failed to note the responsibility of DLCD given it by the Court of Appeals to resolve the urban/rural use definition question. That must occur before the County is required to act further on the McNary industrial site property. Please refer to my letter to you of March 1, 1991, for a thorough explanation of the situation.

Thank you for the opportunity to clarify this point.

Sincerely,

Dennis A. Olson
Planning Director

DAO:vt
cc: Board of Commissioners
Brent Lake, DLCD
Susan Brody, DLCD

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MAR 14 1991

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UMATILLA COUNTY TECHNICAL REPORT

The environmental consequences of limiting structural development in riparian vegetation corridors is positive. By limiting development, erosion is reduced which increases habitat protection and helps to maintain water quality.

The energy consequences of limiting structural development in riparian vegetation corridors is also positive. By protecting riparian vegetation, less energy will be spent trying to rectify erosion problems.

Excluding some areas presently designated for future development in the County's Comprehensive Plan, it appears that regulating structural development in riparian vegetation corridors would have a positive effect on conserving fish and wildlife habitat and maintain streambank suitability. Maintaining a 50 or 100 foot stream setback would also permit better stream pollution control and preserve natural visual amenities. Therefore, in order to conserve riparian vegetation corridors, the County has established streambank setbacks within all or most zoning designations for structures and sewage disposal installations. In addition, the County has adopted Section 4.600 of the Umatilla County Development Ordinance which addresses maintenance, removal and replacement of riparian vegetation (q.v.).

Significant Wetlands

There are a number of areas in Umatilla County that are considered by ODFW as wetland wildlife habitats. The waterfowls and furbearer habitat map, page D-24, shows the areas in a general manner. The maps on the following pages and Table D-XI(a) show those areas which are particularly important and should be acknowledged as such.

The Oregon Department of Fish and Wildlife rated the "quality" or wildlife value of these wetlands as shown on Table D-XI(a).^{2a} Wetlands not publicly owned or managed were rated:

- "A" = Highest wildlife value - deserving of special protection
- "B" = High wildlife value - deserving of protection
- "C" = Very good wildlife value - deserving of protection

Those sites determined to be of "highest wildlife value" by ODFW were the McNary Potholes, Dodd's Pond and Echo Meadows. Additional "quality" information is not available.

TABLE D- XI (a)
SIGNIFICANT WETLANDS INVENTORY

<u>Inventory Map Page</u>	<u>Township/ Range</u>	<u>Sections</u>	<u>Type/Name</u>	<u>ODFW Evaluation</u>	<u>Goal 5 Analysis</u>
D- 32	6N 30	4, 5, 7, 8	Lake Wallula (McNary Pool)	P	3A/1A
D- 33	6N 34	13	Mud Creek Springs	B	3c
D- 34	6N 34	18	White Reservoir	C	3C
D- 35	6N 34	22, 23	Swartz Creek	B	3C
D- 36	6N 34	25, 26	Pine Creek; Dry Creek	B	3C
D- 37	6N 35	13	Grandview Ponds	C	3c
D- 38	5N 27	13, 14	Lake Umatilla (John Day Pool)	P	3C
D- 39	5N 28	13, 15, 19, 22-26	"McNary Potholes"	A	3C
D- 40	5N 28	13, 14	"McNary Potholes" (North)	A	3C
D- 41	5N 28	22	Power City Wildlife Area	P	3A
D- 42	5N 28	32, 33	Pond, swamp	C	3C
D- 43	5N 29	13, 14	"Dodd's Pond"	A	3C
D- 44	5N 29	22	Drainage area	B	3C
D- 45	4N/5N 29/30	---	Cold Springs National Wildlife Refuge	P	3A/1A
D- 46	4N 28	33, 34	"Mann's Pond"	B	3C
D- 47	4N 28	35	Ponds	B	3C
D- 48	4N 29	11	"Britt's Pond"	B	3c
D- 49	3N 27	1, 2, 3,	ponds, swamps	B	3C
D- S0	3N 27	10	Lost Lake	B	3C
D- 51	3N 28	1, 2, 11, 12	"Echo Meadows"	A	3C
D- 52	3N 29	5	Water-filled rock pit	C	3C
D- 53	3N 29	21, 22, 27	Spring-fed swamp	C	3C
D- 54	1N/2N 32	---	McKay Creek National Wildlife Refuge	P	3A/1A
D- 55	1s 35	9	Meacham Lake	C	3C
D- 56	4s 30	9-16	"The Big Pot" (Gurdane)	C	3C
D- 57	4S 32	19	Albee area	B	3C
D-58	5s 31	13, 14, 15, 23	Camas Creek drainage	C	3c
D-	4N 35	30	Weston Pond	B	3C
::	3N 30	9	Barth Quarry Pond	B	3c
::	2N 31	9	Roadside ponds near Rfeth	C	3C

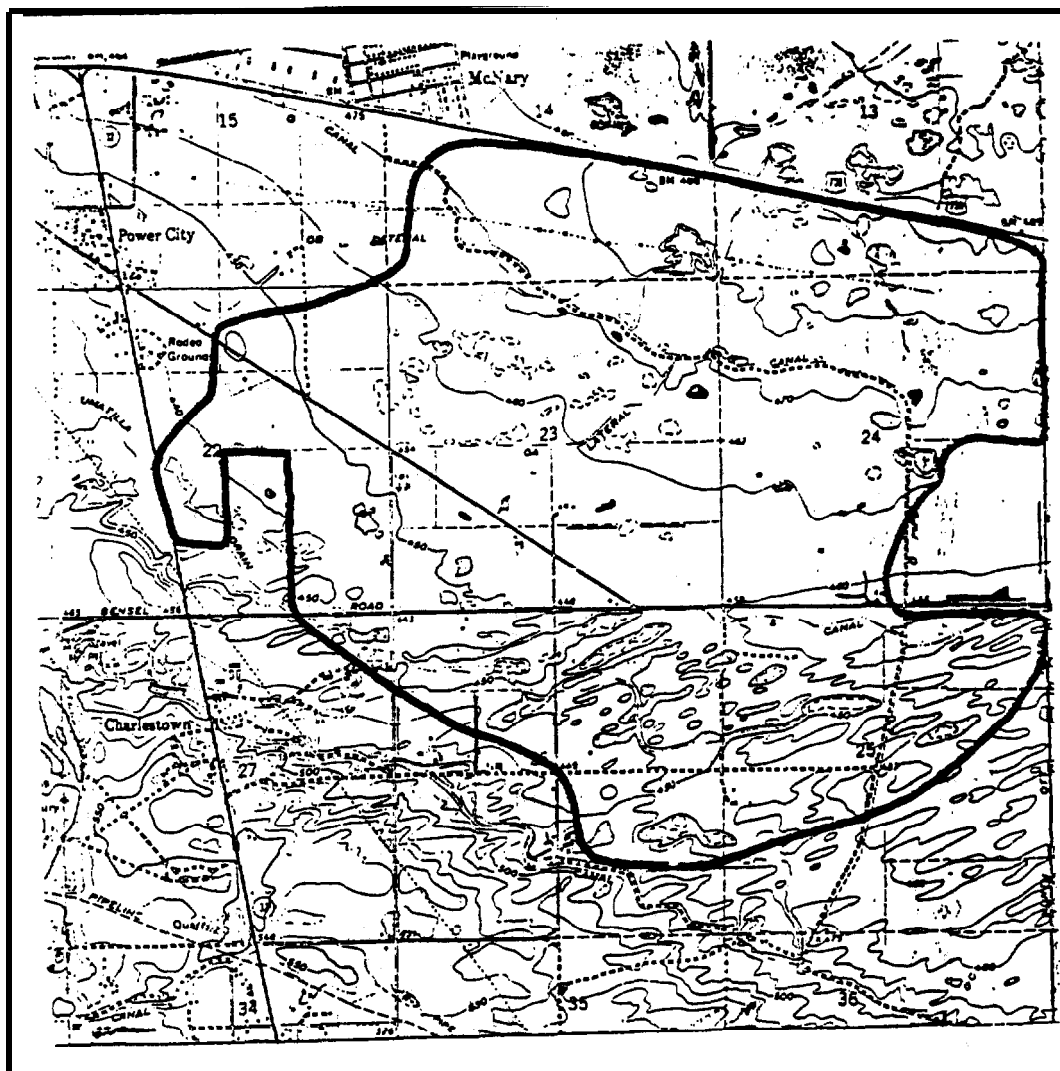
FW Evaluation: P = Publicly owned or managed - no rating
A = Highest wildlife value - deserving of special protection
B = High wildlife value - deserving of protection
C = Very good wildlife value - deserving of protection

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-39

AREA: "McNary Potholes"

T/R: T5N R28 EWM; Sections 13, 15, 19, 22-26



Wetland Area



(Exact boundaries may
require site inspection)

Map Source: U.S.G.S.

Plan Designation: Agricultural

Zoning Designation: Exclusive Farm Use

Possible Land Use Conflicts: Adjacent residential, retail and industrial
uses; some farm activities.

Goal 5 Analysis: 3C; Limit Conflicting Uses

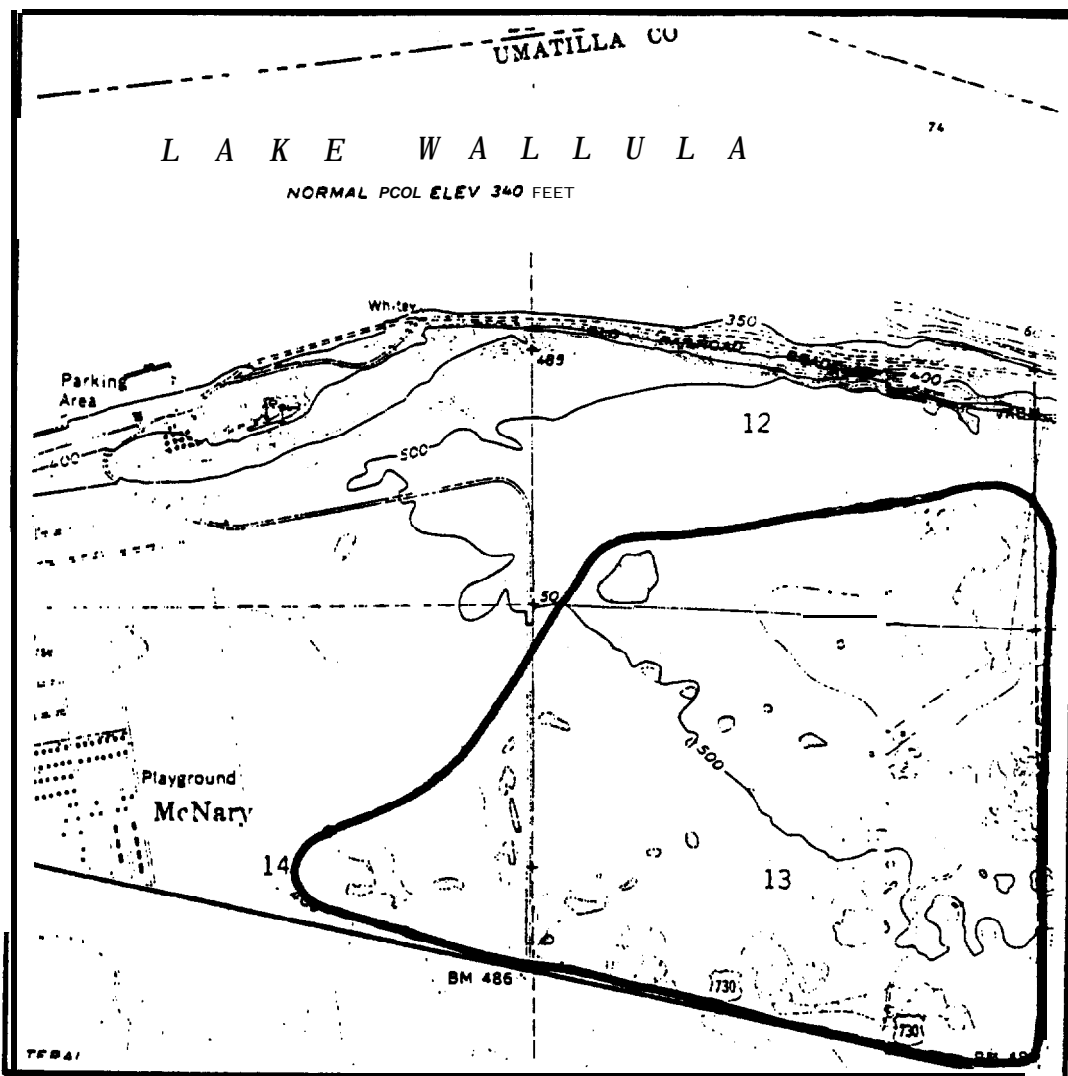
Management Program: Plan and zoning limit conflicting uses; 100 foot
setback from wetlands and streams required for structures and sewage disposal

INVENTORY
SIGNIFICANT WETLANDS

MAP: D-40

AREA: "McNary Potholes" (north)

T/R: T5N R28 FWM: Sections 13 and 14



Wetland Area  (Exact boundaries may require site inspection)

Map Source: U.S.G.S.

Plan Designation: Section 14 = Urban Growth Boundary; Section 13 = Industrial

Zoning Designation: Urban Growth Boundary; Industrial

Possible Land Use Conflicts: Urban and industrial uses

Goal 5 Analysis: 3B; Allow conflicting uses (see text)

Management Program: (see text)

The County has performed its ESEE analysis and adopted clear and objective standards to protect Goal 5 resources from non-forest uses. The County also identified forest operations as uses which conflict with certain Goal 5 resources. However, because the County is unwilling to restrict commercial forestry to an insignificant or incidental use, it has deferred to the Forest Practices Act to control forest operations. The County has not adopted additional clear and objective standards to control forest operations. The decision not to relegate commercial forestry to a secondary use is a permissible option under the Goal 5 rule. Having selected that option, ORS 527.726(1)(c) precludes the additional regulation of forest operations by the County.

ECOLOGICALLY AND SCIENTIFICALLY SIGNIFICANT NATURAL AREAS, INCLUDING DESERT AREAS

According to Statewide Planning Goal #5, the definition of "natural area" includes "land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features."

This broad definition of "natural area" would include hundreds of sites and areas within Umatilla County. In order to provide some selectivity in identifying natural areas worthy of recognition in the Comprehensive Plan, Statewide Planning Goal #5 requires inventories to designate "significant" natural areas. For the purposes of this inventory, "significant" is defined as follows:

Significant natural areas are sites which contain examples of unique or scientifically important natural resources which compare favorably in terms of quality and quantity with other examples of similar resources. These resources may include unique or scientifically important plant communities, aquatic types or geologic types. Sites are significant if they represent an assemblage of important resource types or an outstanding example of a single rare or unique resource. Individual species must generally be associated with other important species or resources to be considered as a "site."

The data base for this inventory of significant **natural** areas is contained in the Oregon Natural Areas Umatilla County Data Summary prepared by the Oregon Natural Heritage Program (ONHP) of **the Nature Conservancy**.³ Table D-XV is the actual inventory prepared by the Nature Conservancy.

The above definition qualifies a significant natural area as an "assemblage of important resource types or an outstanding example of a single rare or unique resource," but that **individual** species occurrence normally **is** not considered a "site." With this definition in mind, then, this Technical Report categorized the various "ecologically and scientifically significant habitats" discussed on page D-6 as follows:

1. Wildlife habitat, which include big game, upland game bird, waterfowl, furbearer and non-game wildlife, wetland and riparian corridor and fish habitats. All of these have already been covered by **this** report.
2. Significant Natural Areas, which are defined above as unique plant communities.
3. Species Occurrence Areas, which are locations of a single species of rare, threatened or endangered plant or animals.

Since the entire ONHP inventory **is** used herein (Table D-XV), the various entries on the table are referred from hereon according to these three categories of significant habitats.

Table D-XV
ONIP Site Inventory for Umatilla County

REF. NO.	SR	REFERENCE NAME	LOCATION T-R-S	PS	ELEMENT NO.	VO	ELEMENT NAME
UM-3		Darr Flat (pristine biscuit scabland)	2S, 30E 25, 36	3	1.18.986 1.28.910 1.28.911 2.02.557 2.02.654 2.02.881 4.10.120	V V V V V V V	Wetland shrubland Bluebunch wheatgrass-Idaho fescue Bluebunch wheatgrass-Sandberg's bluegrass Long-billed curlew Burrowing owl White-tailed jack rabbit Lowland pond, intermittent
UM-5		Upper Cottonwood Creek	5, 6N, 37E	3	5.17.806	V	Elk critical winter range
UM-6		Blalock Mountain and Flume Canyon	5N, 37E 31-34 4N, 37E e 2-3 m	3	5.17.806	V	Elk critical winter range
UM-14		McNary Potholes	S1<, 28E 13-15, 22-23	3	4.10.110 4.10.120 5.14.500 5.14.550	V V V V	Lowland pond, permanent Lowland pond, intermittent Waterfowl wetland Shorebird/marshbird habitat
UM-16		Stage Gulch Rangeland	3N, 31E SE 1/4 22	3	1.18.913 1.26.911	V V	Big sage/needlegrass Idaho fescue-bluebunch wheatgrass
UM-17		Anderson Park	1S, 33E 1 1S, 34E 6	3	1.06.710 1.16.722	V V	Ponderosa pine forests Snowberry
UM-19		Cabbage Hill	1N, 34E 7, 8, 18	3	1.06.710 1.16.724 1.26.910	V V V	Ponderosa pine forest Ninebark Steppe grassland
UM-20		South Fork Walla Walla River	4N, 37E 10, 14	3	1.06.620 1.06.630 2.02.265	V V V	Douglas fir forest Grand fir-white fir forest Margined sculpin

KEY: SR=Site Report

PS=Protection Status VO=Verification of Occurrence
 1-preserved V-verified
 2-legally protected NV-not verified
 3-unprotected

The other Umatilla county sites inventoried by The Nature Conservancy have not been studied in detail (UM 4, UM 5, UM 6, UM 14, UM 16, UM 20, UM 25, UM 27, UM 34, UM 35, UM 36, UM 37, UM 38, UM 41, UM 42, UM 43, UM 44). UM 19, Cabbage Hill, has a detailed site report, but **is** located within the Umatilla Indian Reservation, so **is** not discussed herein.

Analysis

The inventory and site reports prepared by ONHP have been further refined by Umatilla County based upon the definition of "significance" mentioned earlier. The sites on the original list have been **categorized** as follows:

1. Eliminated after Further Analysis

These sites have been removed from further consideration as significant natural sites for one or more of the following reasons:

- The natural area qualities of the site have been destroyed.
- Data gathering **in** the field or from secondary information sources, has failed to yield evidence of natural area **qualities**.
- Staff have failed to find the site in the field and there is good reason to believe that either the **location is incorrect** or the site no longer exists.

Any of these sites, as well as new sites, may be reconsidered if further information **indicates** a need to do so.

2. Wildlife Habitat

This category includes areas of value primarily as wildlife habitat.

They do not appear from current data to qualify as **significant** natural areas as defined earlier. These areas would be covered under the wildlife habitat provision of *the* Comprehensive Plan.

3. Species Occurrence

These sites have been inventoried due chiefly to the occurrence of a single species of plant or animal which is included in the **classification** list **in** the Data Summary. These sites are placed into **this special**

category since they do not qualify as significant natural areas according to the criteria for determining significance.

4. Significant Natural Areas

These sites are reported to contain values which would qualify them as significant natural areas as defined on page D-74. It **is** not implied that all such inventoried sites will be protected **as** natural areas. Varying degrees of protection may or may not be provided to these sites depending upon the identification of conflicting uses, if any, and an analysis of the environmental, social, economic and energy consequences of alternative courses of action.

5. Outside of County Jurisdiction

These are sites which occur within the corporate boundaries of a city or within boundaries of the Umatilla Indian Reservation, Umatilla National Forest, or a federal management area, and are thus outside of the county's jurisdiction. These sites have not been evaluated for the occurrence of natural area values.

The **following** information has been taken from the inventory list of sites which was included in the original ONHP Data Summary. This information has been used to classify each of the original inventoried sites into one of the above categories. Only sites listed as Category 4 sites are identified as significant natural areas as defined by Goal 5. This original ONHP list is included for informational purposes only, in order to allow reviews of this material to follow the process used to arrive at the final identification of sites. Table D-XVI gives the results of this site review process.

Site Evaluations for Significant Natural Areas, Species Occurrence Areas and Good Habitat Areas

UM-3 DARR FLAT (Significant Natural Area) (3A) (3C) [Revised]

See Site Report (page D-78) for a description of Darr Flat. This remnant of the one major plant community **is** "one of the state's most significant potential natural areas," according to the Nature Conservancy.⁵ The value of preserving this plant community is not just for aesthetics but

UM-13 McNARY POTHoles (Wildlife Habitat) (3C)

The McNary Potholes region covers a number of sections east of U.S. Highway 395 north of Hermiston and south of Umatilla. It is an area of scattered intermediate and permanent lowland ponds and marshes which is habitat for shore and marsh birds as well as many small mammals. Deer frequent the area also. It is divided into numerous private ownerships. Several potential conflicts to preservation exists. The area could be drained and used for agriculture. Much of the area is within the Hermiston Irrigation District (see map B-14). However, most of the soils are classified VIII or VI irrigated, or are unmapped scabland, so agricultural use is limited. Some pastureland and grazing exists in the area: These existing uses probably compliment the marsh wildlife habitat by providing additional open space.

Another potential conflict to preservation of the marsh habitat is the possibility of urban/suburban development. Some of the area is within the Umatilla Urban Growth Boundary, and some suburban and commercial uses already exist along U.S. 395 and adjoining county roads. However, there are some natural factors that inhibit development of the area. The very "wetness" of the area is one limitation as well as are the foundation restrictive soils of the area.

There currently exists in the area a wildlife management area of approximately ninety acres, owned by the Bureau of Land Management and managed by the State Department of Fish and Game. Study should be given to whether additional land should be included in this wildlife management area or if the existing refuge and the low risk or extensive urban/suburban development or more intensive agricultural use adequately insure continued use of the area as a good wildlife habitat area. The rest of the area is protected by exclusive farm use zoning. See also the discussion of this area under "Significant Wetlands."

UM-16 STAGE GULCH RANGELAND (Significant Natural Area) (1B) [Revised]

Like Darr Flat, this site has never been converted to agricultural use or heavily grazed; consequently, much of the original plant community remains. Actually, the site consists of gully and slope areas not useful for agriculture. The site was originally surveyed by Nature Conservancy in 1976. The County has obtained the service of a botanist to thoroughly study the area to determine if the site is still unique or of scientific importance. This study will be completed by the end of 1986.

UM-17 ANDERSON PARK (Outside of County Jurisdiction) (1A) ADD

As noted earlier, this small (5-10 acre) parcel contains a stand of climax species ponderosa pine. It is located on the Umatilla Indian Reservation; therefore, it is outside of county jurisdiction.

UM-19 CABBAGE HILL (Outside of County Jurisdiction) (1A)

This site contains some special species occurrence; however, it is located on the Umatilla Indian Reservation. Therefore, it is outside of county jurisdiction.

UM-20 SOUTH FORK WALLA WALLA RIVER (Wildlife Habitat) (3C)

Harris County Park and some adjacent BLM land make up this wildlife habitat area. Recently the county and BLM prepared a management plan for the area which will provide habitat protection, yet allow recreational uses.

TABLE D-XVI
Site Evaluations for Significant Natural Areas, Species Occurrence Areas and Wildlife Habitat Areas

<u>ONHP Site #/ Map Page</u>	<u>Site Name</u>	<u>Site Category (see below)</u>	<u>Goal 5 Analysis</u>
UM 3/D-90	Darr Flat	4	3A/3C
UM 4	Lazinka Ranch	1	1A
UM 5/D-91	Upper Cottonwood Creek	2	3c
UM 6/D-92	Blalock Mountain and Flume Canyon	2	3c
UM 14/D-93	McNary Potholes	2	3c
UM 16/D-94	Stage Gulch Rangeland	4	1B
UM 17	Anderson Park	5	1A
UM 19	Cabbage Hill	5	1A
UM 20/D-95	South Fork Walla Walla River	2	3c
UM 21	Albee Area	4	1B
UM 22/D-96	Pilot Rock Area	3	3c
UM 25	North Fork Umatilla River	5	1A
UM 27	White Pine Spring	5	1A
UM 34	Bobsled Ridge	5	1A
UM 35	Cold Springs National Wildlife Refuge	5	1A
UM 36	McKay Creek National Wildlife Refuge	5	1A
UM 37/D-97	Brfdge Creek Wildlife Management Area	2	3A
UM 38	Irrigon Wildlife Management Area	2	3c
UM 39	Refth Area	3	3A
UM 40	Squaw Creek Overlook	5	1A
UM 41/D-98	Squaw Creek	5/2	3c
UM 42	Kamela Area	5/3	1B
UM 43	Pilot Rock Grassland	4	1B
<u>UM 44/D-99</u>	<u>North Fork John Day River</u>	<u>2</u>	<u>3C</u>

Site Categories

- | | |
|---|-----------------------------|
| 1. Eliminated after Further Analysis | 2. Wildlife Habitat |
| 3. Species Occurrence | 4. Significant Natural Area |
| 5. Outside of County Jurisdiction | |

Conflicting Uses

As noted in the discussion of some of the natural areas, there is a wide range of potential conflicting uses which could threaten the continued existence of these special natural habitats. Several sites (South Fork **Walla Walla** River, North Fork John Day River, Kamela Area) have a high potential for more-or-less intensive recreational uses. Some sites (Darr Flat, Stage Gulch, Pilot Rock Area, Pilot Rock Grassland, McNary Potholes) could be affected by more intensive agricultural operations. McNary Potholes could be affected by urban development. Logging operations might threaten others (Upper Cottonwood Creek, Blalock Mountain, Anderson Park, **Albee** Area, North Fork John Day River, Squaw Creek, Kamela Area).

Preservation of all the sites designated as wildlife habitat, species occurrence or significant natural area, and that are under county jurisdiction, would not seem, with the information available, to cause any great economic impact on the community or property. However, further detailed study should be made of the site to determine if any economic impacts would outweigh the intrinsic, aesthetic and environmental value of site preservation.

LEVEL I SURVEY:

Contaminant Survey Checklist
of Proposed Real Estate Acquisitions

INSTRUCTIONS: Check for each category. Explain briefly where something other than "No", "None", or "Not Applicable" is checked. Discuss whether a Level II or III Survey will be recommended. Describe the distance if nearby is checked and whether there is a known potential pathway for contamination on site. Attach a legal description of the real estate property covered by this Survey.

A. Background Information

Bureau Name U.S. Fish and Wildlife ServiceSite Name Conforth Ranch county Umatilla State OreanDate of Survey December 17, 1990

B. Site Inspection Screen: On-Site and Nearby	ONSITE	NEARBY	NONE
1. Dumps , especially with drums, containers (Read labels if possible; do not open or handle! If not labels, note identifying characteristics)	<u>X</u>	<u> </u>	<u> </u>
2. Other debris: household, farm, industrial waste	<u>X</u>	<u> </u>	<u> </u>
3. Fills: possible cover for dumps	<u>X</u>	<u> </u>	<u> </u>
4. Unusual chemical odors	<u> </u>	<u> </u>	<u>X</u>
5. Storage tanks: petroleum products, pesticides, etc.	<u>X</u>	<u> </u>	<u> </u>
6. Buildings: Chemical storage, equipment repair, solvents	<u>X</u>	<u> </u>	<u> </u>
7. Structures -- evidence of asbestos sprayed fire proofing, acoustical plaster	<u> </u>	<u> </u>	<u>X</u>
a. Vegetation different from surrounding for no apparent reason, e.g. bare ground	<u> </u>	<u> </u>	<u>X</u>
9. "Sterile" or modified water bodies	<u> </u>	<u> </u>	<u>X</u>
10. Oil seeps, stained ground, discolored stream banks	<u>X</u>	<u> </u>	<u> </u>
11. Oil slicks on water, unusual colors in water	<u> </u>	<u> </u>	<u>X</u>
12. Spray operation base: air strip, equipment parking area	<u> </u>	<u> </u>	<u>X</u>
13. Machinery repair areas	<u>X</u>	<u> </u>	<u> </u>
14. Pipelines; major electrical equipment	<u> </u>	<u> </u>	<u>X</u>
15. Oiled or formerly oiled roads	<u>X</u>	<u> </u>	<u> </u>
16. Electric transmission lines: pole mounted transformers, pad mounted transformers -- evidence of leakage	<u>X</u>	<u> </u>	<u> </u>

- C. Record Searches (Coordinate with Realty, title search, others as appropriate.)
1. Evidence of past uses which might indicate potential problems of site (Circle any that are applicable.)

Manufacturing, service stations, dry cleaning, air strip, pipelines, rail lines, facilities with large electrical transformers or pumping equipment, petroleum production, landfills, scrap metal, auto, or battery recycling, military, labs, wood preserving, other describe _____ **Nc** ne X
 2. Nearby land uses, especially upstream or upgradient, or that might have had potential problems at site (see list under Past Uses) Identify _____ **Nc** ne X
 3. Known contaminant sites in 1-mile radius of site. NPL, state sites, candidate sites (check with **EPA**; State EPA counterpart)

_____	_____ <u>X</u>
Yes	No
 4. Interviews on past use: owners, neighbors, county agents and any appropriate Federal authorities: Problems?

_____	_____ <u>X</u>
Yes	No
 5. Agricultural history: surface, subsurface drains.

_____	_____ <u>X</u>
Yes	No
- D. In acquiring land from another Federal agency, that agency has notified the Department **of** the past or current presence **of a** hazardous substance under section 120(h) of **CERCLA** (Superfund).
- Not Applicable X Yes _____ **Nc** _____
- E. Has a non-Federal entity identified any hazardous materials problems on or near the site surveyed?

Yes	_____ <u>X</u>
No	_____
 - F. **A** Level II study is recommended Yes _____ **NO** X
A Level III study is recommended Yes _____ **NO** X

G. Certification (person conducting Level I field survey)

I hereby certify that to the best of my knowledge no contaminants are present on this real estate, and there are no obvious signs of any effects of contamination.

Signed _____ Print Name _____

Date _____ Title _____

On the basis of information collected to complete this form it is possible to reasonably conclude that there is a potential for contaminants, or the effects of contaminants, to be present on this real estate.

Signed Elizabeth J. Materna Print Name Elizabeth J. Materna

Date 12/19/90 Title Environmental Contaminant Specialist Asst.

The surveyed real estate, or a portion thereof, contains contaminants. The owner of that real estate has/will clean up the contaminants to bureau specifications. A Level II or Level III Survey is not required.

Signed _____ Print Name _____

Date _____ Title _____

H. Approving Official

I concur with the above recommendation.

Signed _____ Print Name _____

Date _____ Title _____

Conforth Ranch - Pre-acquisition Survey

Explanations of survey answers other than "No" or "Not Applicable".

B. Site Inspection Screen: On-site and nearby

1. The **Conforth** Ranch dump site (Figure 1) lies approximately 70 yards from the Columbia River and is scattered with several pesticide buckets, paint buckets, lubricant containers, hydraulic fluid containers, and daily household refuse. Exposed containers appeared empty and several of the labels were visible, **however**, the dump has been periodically filled leaving much of the garbage hidden. Mr. Conforth, the owner of the ranch, was confident that all containers were empty upon disposal. The dump site is approximately 50 feet wide and 20 to 30 feet deep. Another site, termed the farm machinery site (Figure 1), was used to deposit large quantities of old tires, pipe, farm machinery, pesticide containers, lubricant containers, and assorted household appliances. All of the containers inspected were empty and most labels were still visible.
2. Farm and household waste is associated with the sites **described** above. Other waste materials (tires, lubricant cans, maintenance fluids, pesticide container, a car battery, and various **unused** farm equipment) were noted at an old home site (Figure 1) on the **Conforth** Ranch. Steel pipe, tires, farm machinery, and old trucks are also scattered throughout the ranch. At **one** time water was pumped onto the ranch through a pipe constructed of welded 55 gallon drums. This pipe has been replaced, however, sections of this pipe remain scattered over the ranch. Although no drum labels were visible, the service does not feel these drums will pose a risk to fish and wildlife as they have been flushed through with large quantities of water and will be removed upon acquisition of the **Conforth** Ranch.
3. The dump site previously described has been periodically covered with soil over the Conforth's 31 year ownership.
5. Two fuel storage tanks were observed near the garage on the feed lot (Figure 1). No leakage was apparent from the tanks themselves or the attached hose, however, a darkened area of ground surrounding the tank hose indicated some spilling has occurred during vehicle fueling. A tractor mounted tank used for herbicide spraying is stored at the corral site (Figure 1); this tank remains empty when not in use.
6. A few buildings are associated with existing and previous ranching operations. The feed lot (Figure 1) supports a maintenance garage and small shed where several herbicides, cattle insecticides, lubricants, and maintenance fluids are stored. A shed also remains at the old home site where a container of antifreeze, several cans of spray lubricant, a partially filled bucket of animal insecticide, and a variety of old farm equipment were observed.

B. Site Inspection Screen: On-site and nearby

10. A small area of discolored ground, approximately 15 **ft²**, was evident below the diesel fuel storage tank on the feed lot. This appears to be the result of spills which occur during equipment fueling as no leaks were observed in the tank or attached hose.
13. Machinery repair currently takes place in the garage, previously some repair may have taken place at the farm machinery site.
15. Used oil has been deposited on roads as dust control. No evidence of discoloration was apparent on any roads observed during the survey visit.
16. Electrical transmission lines occur on the **Conforth** Ranch. Pole mounted transformers were associated with transmission lines on the feed lot. It is not known if **these** transformers contain **PCBs**. There was no evidence of leakage around any of the observed transformers.

G. Certification

The **Conforth** Ranch does not appear to present a contaminant threat to fish and wildlife or a liability to the Fish and Wildlife Service. Abundant wastes associated with the property need to be removed and will require heavy machinery to do so. Once debris is removed another Level I Survey should be conducted to assure buried garbage did not contain any hazardous substances. We further recommend capping the dump and farm machinery sites with an appropriate depth of clean soil to preclude wildlife from any past spills which may have occurred. These additional clean-up costs need to be considered.

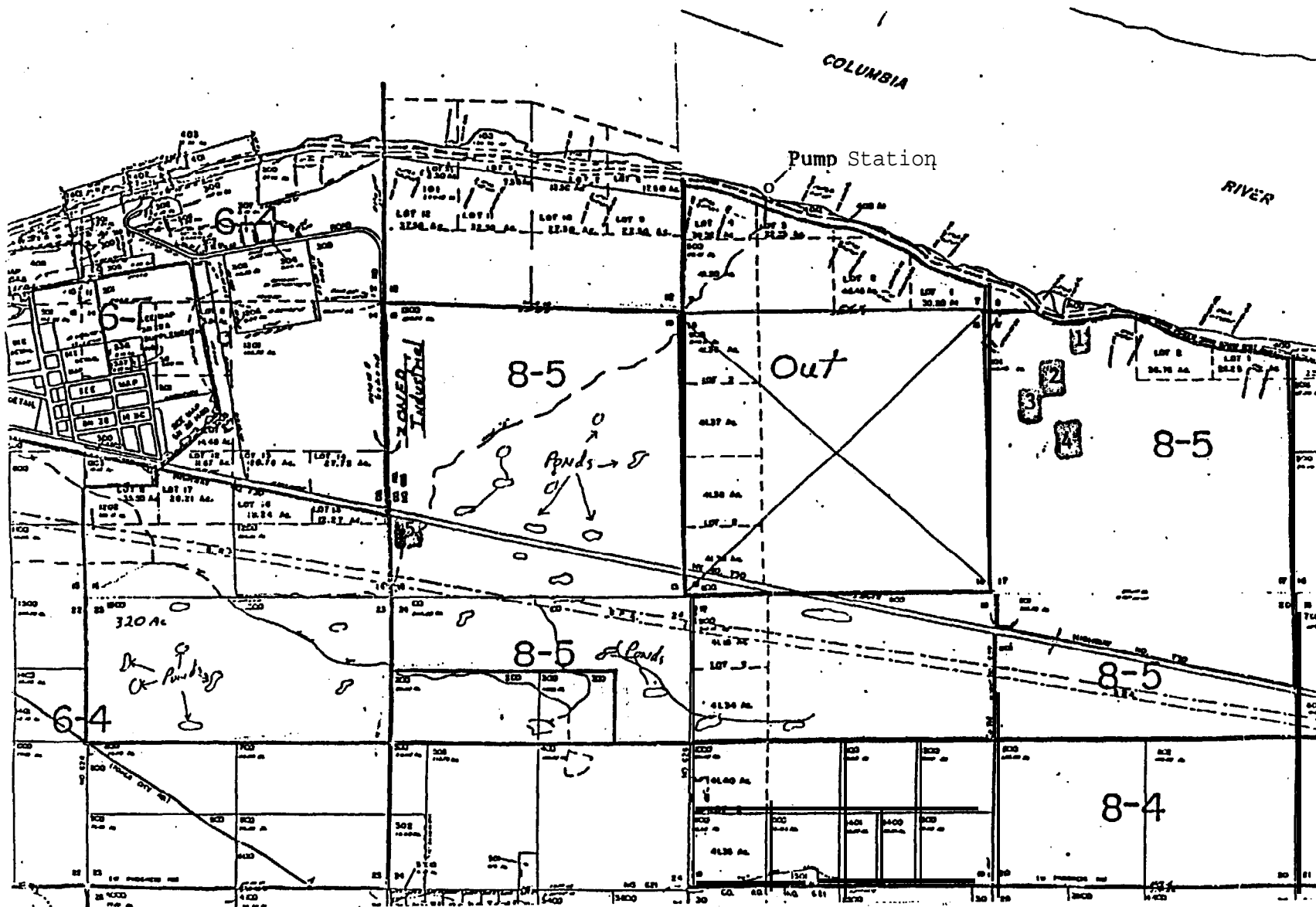


Figure 1. Map of Conforth Ranch showing dump site (1), feed lot (2), old home site (3), farm machinery site (4), and corral site (5).