USDA Forest Service
Deschutes National Forest, Bend-Fort Rock Ranger District
Deschutes County, Oregon

OREGON WATER WONDERLAND UNIT II SANITARY DISTRICT TOWNSITE ACT APPLICATION

ENVIRONMENTAL ASSESSMENT

INTRODUCTION

This Environmental Assessment (EA) evaluates an application submitted by the Oregon Water Wonderland Unit II Sanitary District to purchase National Forest System lands for treated wastewater storage and irrigation facilities. The application was submitted under authority of the National Forest Townsite Act of July 31, 1958. This EA analyzes the issues and effects associated with a sale of land by the USDA Forest Service to Oregon Water Wonderland Unit II Sanitary District (District).

Oregon Water Wonderland Unit II (OWW2) is a 1000-lot rural community in southern Deschutes County, established in 1975. The District is authorized by Deschutes County and the State of Oregon, and provides and manages sewer facilities for the community. County and state land use and environmental rules and regulations have changed since the community was originally platted and approved, and what was approved for sewage and effluent facilities in the early 1970's is not acceptable today.

OWW2 is located between the Deschutes and Little Deschutes Rivers, in an area with very high groundwater (depths of 2 feet or less). In addition to being sited in a high groundwater area, existing facilities are aging and failing, and the wastewater disposal site is inadequate. All of these factors are contributing to water quality degradation of the groundwater and possibly of the nearby rivers. The District is currently in non-compliance with the Oregon Department of Environmental Quality (DEQ) regulations for wastewater storage and disposal. Acquisition of a new, larger, and suitable area for wastewater storage and disposal, in conjunction with rebuilding and expanding the sewer infrastructure at OWW2, will resolve the situation and help improve regional water quality in southern Deschutes County.

A proposed sale would involve either 240 or 520 acres of National Forest land to be purchased by the District for a treated wastewater storage and disposal site. The sewage treatment plant would remain on District property; only the treated wastewater (effluent) would be stored and disposed on the proposed site.

This EA is composed of five Sections: I) Purpose and Need for Action, II) Description of Alternatives,

III) Description of the Proposed Use, IV) Environmental Effects, and V) List of Preparers and Consultation with Others. The project file is located at the Bend-Fort Rock Ranger District Office.

SECTION I. PURPOSE AND NEED FOR ACTION

This Section contains eight parts: Proposed Action; Purpose and Need for Action; History and Background Information; Decision to be Made; Additional Reviews, Permits, and Authorities; Scoping Process Used; Identification of Issues; and Items Incorporated by Reference.

PROPOSED ACTION

In response to the District's Townsite Act application, the Forest Service is proposing to sell 240 acres of National Forest land to Oregon Water Wonderland Unit II Sanitary District to help them meet the community's wastewater disposal needs and to help improve groundwater quality. The District would use the site for wastewater storage and an irrigation area to sprinkler irrigate and reuse the treated effluent. Access roads and ancillary facilities would be included. There would be a buffer area between the facilities and adjoining lands. The land applied for under the Townsite Act is only for storage and disposal of the treated effluent. The raw sewage and solid material would continue to be treated on the District property.

The parcel of National Forest land being considered as the Proposed Action (Alternative B) is located approximately 16 miles south of Bend and 2 miles south of Sunriver, Oregon, in Sections 16 and 17, T. 20 S., R. 11 E., W.M. Vandevert Road is on the southern boundary, and the Burlington Northern Railroad forms the eastern boundary. There is National Forest land on the west and north sides with a portion of the northwest corner adjoining undeveloped private land. (Refer to Area Map).

PURPOSE AND NEED FOR ACTION

The primary purpose and need for the land sale is to provide a viable means for OWW2 to resolve their wastewater storage and disposal situation and their environmental violation with DEQ. The District has a need to implement a feasible and economic solution to continue to serve the community, meet environmental regulations and requirements of DEQ, and help protect the groundwater quality in southern Deschutes County. In order to accomplish this, the District has an urgent need to acquire adequate property for storage and disposal of treated wastewater.

In the La Pine Basin in southern Deschutes County, contamination of groundwater and surface water from septic tanks and drainfields is a widespread and serious concern. In December 1998, Deschutes County Commissioners signed Ordinance No. 98-085 recognizing that groundwater quality is diminishing due to the cumulative impact from existing on-site septic systems in areas of high groundwater tables and rapidly draining soils. The Commissioners declared this an emergency and signed the ordinance for the immediate preservation of public peace, health, and safety. As with other communities in the area, high groundwater, unfavorable soil conditions, and close proximity to the

Deschutes and Little Deschutes Rivers are major factors in the inability of the existing wastewater disposal site at OWW2 to accommodate the wastewater. The existing wastewater storage facilities do not have enough capacity, and the irrigation area is too small and inadequate. Treated effluent is currently being applied at a rate much greater than what is allowed because there is not enough land to accommodate irrigation at the proper agronomic rates. In addition, the existing sewer and septic systems are leaking and failing. The current system was approved, designed, and constructed 30 years ago and is not able to meet today's needs for the community or for protection of the environment.

The Oregon State Legislature recognized the severity of this type of problem in southern Deschutes County when it authorized a Regional Problem Solving (RPS) Project for that area, and assigned the Oregon Department of Land Conservation and Development to administer the program. The RPS Project is aware that inadequate sites for individual septic systems are likely to result in polluted groundwater, and that there is a need to find a proactive solution. Deschutes County and the RPS Project identified OWW2 as a promising candidate to help solve groundwater issues, and recognized that they may need National Forest land to go forward with sewer improvement and expansion.

The Forest Service recognizes the local public need for a solution to the OWW2 community's wastewater problem. The Forest Service also recognizes the broader regional public need to reduce groundwater contamination, improve water quality, and protect the long-term health of the watershed. The Forest Service has a need and responsibility under the Townsite Act to respond to the District's proposal.

HISTORY AND BACKGROUND INFORMATION

When Oregon Water Wonderland Unit II was originally platted and approved by Deschutes County in the early 1970's, only about one-fourth of the lots were planned to be served by a sewer collection and treatment system, and the remainder were to have standard on-site septic tanks and drainfields. County and state environmental rules and regulations have changed since that time, and what was approved then would not be acceptable today. OWW2 has been taking steps to resolve their wastewater storage and disposal situation for the past several years. The existing sewage treatment facilities are all currently located on District property and within the OWW2 boundary. The District plans to upgrade and repair their existing on-site sewage treatment facilities but needs additional area for a wastewater disposal site. Currently the total area for all their facilities is 11 acres, with just 4 acres available for irrigation and disposal of the treated wastewater.

The District and the Forest Service have been working with Deschutes County to help OWW2 resolve their situation. The county has long recognized that there is a serious water quality problem in many areas of southern Deschutes County. The county has recognized that OWW2's situation could be resolved by acquiring National Forest land, and has entered into separate Memorandums of Understanding (MOU's) with both OWW2 and the Forest Service to demonstrate their support for OWW2's efforts.

High groundwater and adjacent rivers severely limit on-site disposal of treated wastewater. OWW2 has

been working with the Forest Service for more than three years to explore options for potentially suitable sites to help resolve their situation. Research indicates that there are no suitable and feasible private land options available, but that the identified National Forest land is well suited to meet their needs. As a result, the District applied under the authority of the Townsite Act to purchase 240 acres of nearby National Forest land to be used for wastewater facilities. The application was submitted September 22, 2000, and accepted by the Regional Forester on October 31, 2000 for further evaluation. The Townsite Act of 1958 gives the Forest Service the authority to sell land to a community for the purpose of meeting essential community needs and objectives. The land would be sold at fair market value as determined by a real estate appraisal. Funds received from a Townsite Act land sale go to the national treasury.

On November 22, 2000, President Clinton signed into law the Bend Pine Nursery Land Conveyance Act (BPNLCA), which provides a new legal authority for the Forest Service to sell this specific parcel of land, as well as others identified in the legislation. The intent of the BPNLCA is to convey certain properties out of federal ownership and retain the proceeds of the sale of these lands for purchasing local Forest Service administrative facilities. Late in 1999, while the BPNLCA was being drafted, the Deschutes National Forest offered to include several scattered parcels of land in the proposed legislation that were identified as having lost their National Forest character or that were difficult to manage. "Tract C", which includes the OWW2 proposed site, was among those added to the legislation. (Refer to Area Map). The intent was to provide a potentially more efficient and timely process for land disposal and conveyance to OWW2, which would in turn help improve water quality in a more timely manner. The Deschutes National Forest would also benefit, because unlike a Townsite Act sale, funds from a BPNLCA sale would be retained for use locally. When the legislative process was prolonged, OWW2 could not wait indefinitely to proceed under a future BPNLCA legislation, and needed to take action to resolve their environmental violation. With the support of Senator Ron Wyden's office in July 2000, the District began the process to submit a Townsite Act application. The Forest Service and DEQ shared the concern that further delay would contribute to increased contamination of the groundwater and possibly of the Little Deschutes River and of the Deschutes River, which is a designated wild and scenic river. Furthermore, legislative and administrative delays could cause OWW2 to forfeit a portion of their grants and loans for this project. OWW2 could also be liable for fines and penalties from their environmental violations.

In recent years, similar proposals for conveyance of National Forest lands to meet similar needs for central Oregon communities have been submitted, analyzed, and approved by the Forest Service. In each of these cases, the communities also had a need to expand or improve their waste facilities to prevent future contamination of water resources and to stay in compliance with state regulations. In each case, the Forest Service gave high priority to completing the environmental and administrative processes to respond to those community and environmental needs. In each case, county and state agencies also supported the process and conveyance. These similar projects include:

> 1997: The Deschutes National Forest approved a proposal by Sunriver Resort to use approximately 150 acres of nearby National Forest land under a Special Use Permit for construction of a wastewater storage pond and disposal site.

1999: The Forest Service finalized a sale of 160 acres of National Forest lands to the City of Sisters for a sewage treatment plant and related facilities, under the Townsite Act authority.

2000: The Deschutes National Forest finalized a land exchange that gave Sunriver Resort ownership of 375 acres (including the Special Use Permit area) of National Forest land for continued use and expansion of their wastewater treatment facilities and future use for biosolids disposal.

DECISION TO BE MADE

The decision to be made by the Director of Recreation, Lands, and Minerals for the Pacific Northwest Region, is whether or not to sell the 240-acre parcel applied for under the Townsite Act to the Oregon Water Wonderland Unit II Sanitary District. Other reasonable and feasible federal land options which meet the purpose and need for the project may be considered and selected. The decision will include a public interest determination of whether the community needs and public benefits of selling the land to the District for the proposed use outweigh the public benefits of retaining the land in federal ownership as part of the National Forest System. Any decision to sell property to the District would include whether it is sold using the Townsite Act or BPNLCA authority. A decision may also include an option to issue a short-term, temporary Special Use Permit to allow site preparation and initial phases of construction to begin prior to a deed being issued and a sale consummated. The decision, documented in a Decision Notice, will be based on the findings in this Environmental Assessment and will consider public comments.

ADDITIONAL REVIEWS, PERMITS, AND AUTHORITIES

The sale of National Forest land would require an appraisal to determine market value, and would be substantiated by a formal appraisal report. The appraisal report would be reviewed and approved for agency use, in conformance with agency and federal appraisal standards and the Uniform Appraisal Standards for Federal Land Acquisition requirements.

The Pacific Northwest Regional Office and the Washington D.C. Office of the Forest Service will review the proposed sale and verify that it complies with Forest Service policy and technical standards prior to the Decision Notice being issued.

Both the State of Oregon and Deschutes County encourage the use of reclaimed wastewater for beneficial purposes and have rules, regulations, and guidelines to help make the use possible. The OWW2 District would be required to follow established local land use procedures and processes to obtain any necessary approvals for siting the planned facilities. OWW2's proposal appears to be consistent with Deschutes County policy and the intent of the Regional Problem Solving Project for improving groundwater quality. Once the property is no longer in federal ownership, county zoning codes under the Deschutes Comprehensive Land Use Plan would apply. The District currently operates their existing facilities under permits and regulations from DEQ and Deschutes County and would

continue to do so with new facilities.

Treated effluent is regulated by the State of Oregon under Oregon Administrative Rules (OAR) Chapter 340. DEQ administers the rules and requirements for groundwater protection and ensures that reclaimed water will not be used or applied in a manner that causes contaminants to leach in the groundwater or affect groundwater quality. No reclaimed water may be discharged or released without a Water Pollution Control Facilities permit or a wastewater discharge permit. The State of Oregon is also responsible for authorizing the operation and maintenance of wastewater facilities. Rules and regulations by DEQ have numerous stringent requirements, including monitoring and reporting, to ensure protection of the environment.

SCOPING PROCESS USED

A "Notice of Public Scoping" was mailed to more than 1,000 addresses on March 7, 2001. These included addresses in Oregon Water Wonderland Unit II, addresses near the proposed site, known interested parties, and others on existing Forest Service mailing lists. The scoping notice presented a brief description of the proposal in order to give the public an opportunity to help identify issues to consider and address in the environmental analysis. News articles about the project were published in The Bulletin and the Sunriver Scene newspapers. The proposal has been listed in the Schedule of Projects published by the Deschutes and Ochoco National Forests and Prineville District BLM.

Based on scoping comments, it was determined that the environmental analysis should also evaluate another National Forest parcel in nearby Section 25 as an alternate site. The Section 25 parcel is located approximately 2 miles southwest of the Vandevert parcel. On June 4, 2001, a Supplemental Scoping letter was mailed to about 230 addresses within 1/4 mile of Section 25 to inform them that this parcel may be considered as an alternative, and to provide these residents an additional opportunity to comment. The Forest decided to extend the comment period until July 20, 2001 in conjunction with scoping efforts occurring concurrently with the proposed sale of the Bend Pine Nursery property in Bend. The total scoping period was 136 days in length, and comments continued to be accepted beyond the July 20th date.

As a result of the extended scoping efforts, comments from 95 letters, faxes, emails, or personal contacts were received. The issues are summarized below, and a summary of the public comments is included in the project file. In general, the comments reflected that residents and landowners within several miles of the proposed sites are concerned about perceived effects that the project could have on their property or their quality of life. Most comments and issues reflected the desire to have the project located somewhere else, farther away from their property. Many people appeared to be expressing initial concerns based on fears and perceptions of what the facilities would be like instead of concerns based on facts about the facilities or the environment. This was due in part to the lack of detailed information provided in the scoping letters and incorrect or misleading information being circulated from other sources in the local area.

IDENTIFICATION OF ISSUES

The Interdisciplinary Team developed a list of issues from the comments that were received. Issues either considered important to help guide the analysis or for general information and clarification are summarized below. This list reflects the issues identified from public scoping efforts and specialists' input, and is in relative order based on the numbers of comments received.

Effects on Private Property

- What would be the effects on private property in the area?
- How far away could effects be noticed?
- Could this affect homes or property in the area?
- Will there be buffer areas around the facilities?

Purpose and Need for the Project

- Why does OWW2 need the project?
- What is the purpose of the facilities?
- How would this fit with needs identified in the Regional Problem Solving Project?

Other Alternatives Considered

- What other sites or options were considered?
- Would Section 25 of Tract C from the BPNLCA be a viable alternative?
- Could Sunriver Resort treat the OWW2 wastewater at their facility as another option?
- Could OWW2 purchase all of the National Forest lands in Tract C around the proposed site (approximately 920 acres) instead of just 240 acres, to provide a larger buffer area?

Groundwater and Surface Water Quality

- What would be the effects on groundwater quality?
- What would be the effects on the water quality of the Deschutes and Little Deschutes Rivers?
- Are existing OWW2 facilities affecting groundwater or surface water quality at the present time?
- What are DEQ's concerns?
- Could domestic wells become contaminated because of the proposed use of the site?

Proposed Facilities

- What are the proposed facilities and what will they do?
- Where will the raw sewage be treated?

Treatment Levels/Facility Design

- What is the required level of treatment, and how is that determined?

- Should OWW2 be required to treat to a higher level?
- What monitoring, mitigation, and safeguards will there be?
- How will the effluent be transported to the site?
- What facilities will remain at the existing OWW2 property?
- Are there other similar types of facilities in existence, and how do those compare?

NEPA and Siting Processes

- What was the Scoping process, and how were people contacted?
- What decisions will be made?
- What state and county permits or approvals would be needed?

Wildlife

- What would be the effect on deer and elk?
- How would this affect big game migration and the migration corridor?
- What are the effects on non-game species of wildlife?
- Would this project improve habitat for wildlife?
- Can wildlife use the area after the facilities are in place?

Odor

- Would there be odors?
- What safeguards are there to minimize the potential for odors?

Visual Quality

- What will the site and facilities look like?
- Would the facilities be seen from a distance?
- How much of the existing forest landscape will be retained?

Other Environmental Benefits Or Effects

- What would be the effects on recreation use?
- Would public access be allowed?
- Would this increase the risk of wildfire?

Environmental Justice or Social Disparity

- If nearby affluent communities or resorts object, would the sale and proposed use be denied?
- How do regulations and policy for Environmental Justice apply to the analysis and decision?

Authority

- Under what legal authority can the Forest Service sell the property?
- What is the Townsite Act, and how is it applied in this situation?
- What is the BPNLCA, and what is its relationship to this proposal?
- Will approval of this set precedence, or have similar projects been approved before?
- Would denial of the Townsite Act application set precedence?

Future Use

- Will there be any other uses allowed at the site of the facilities?
- Would any other housing developments use the OWW2 facilities?
- If OWW2 does not acquire the property, will the Forest Service sell it later to someone else under the BPNLCA?
- If the parcel is not sold to OWW2, what would it be used for instead?

Isolated Or Unmanageable Parcel

- What is meant by unmanageable or that the National Forest character has been lost?
- What makes the parcel difficult to manage?
- How would the NFS land be managed if it stayed in federal ownership?

Site Location And Requirements

- Why was the proposed site selected?
- How would the property be zoned by Deschutes County once it is in private ownership?

Agency Support For The Project

- What support is there from other agencies?

History and Background

- What are OWW2's needs, and how did these lead to the proposal to the Forest Service?
- Why is this project important at this particular time?

Loss of Federal Lands

- Is this sale of National Forest land in the public interest?
- What are the effects of the loss of these lands?
- Would these parcels be sold anyway to another party, if not to OWW2?

ITEMS INCORPORATED BY REFERENCE

This Environmental Assessment incorporates by reference the standards, guidelines, and monitoring requirements of the 1990 Deschutes National Forest Land and Resource Management Plan (LRMP), including applicable amendments. The EA also incorporates three environmental assessments prepared by the Forest Service for similar proposals by Sunriver Resort (Special Use Permit and Land Exchange) and the City of Sisters (Townsite Act Sale). Specialists' reports used in the preparation of this EA are included in the project file, located at the Bend-Fort Rock Ranger District office.

SECTION II. DESCRIPTION OF ALTERNATIVES

This section provides a description of alternatives that are reasonable, viable, within the scope of this analysis, and respond to the "Purpose and Need". Forest Service managers and specialists considered the purpose and need for action, management and administrative issues, and public comments, in developing alternatives. Federal lands which could be conveyed by the Forest Service and used by Oregon Water Wonderland Unit II are being considered in detail. Three alternatives analyzed in this Environmental Assessment are:

Alternative A, the No Action Alternative,
Alternative B, the Proposed Action (Vandevert Parcel)
Alternative C, the Section 25 Parcel

A brief discussion of alternatives considered but eliminated from detailed study is also included.

ALTERNATIVE A - "NO ACTION" ALTERNATIVE

Under this alternative, there would be no sale of National Forest land to the OWW2 District for a wastewater facility. The Deschutes National Forest would continue to manage the land in accordance with the current management allocation under the direction of the 1990 Land and Resource Management Plan, at least for the very short-term. However, the land is planned to be evaluated for sale under the authority of the BPNLCA and would likely be sold in the near future to another private party. The No Action Alternative would not meet the Purpose and Need, but is described as a basis for comparison with Alternatives B and C.

ALTERNATIVE B - PROPOSED ACTION (VANDEVERT PARCEL)

With this alternative, the 240 acres of National Forest land identified in the Townsite Act application would be sold to the OWW2 Sanitary District. The District would use the property for wastewater

facilities in conjunction with improvements to sewage treatment facilities located on District land. All uses would need to conform to state and local rules, regulations, and zoning. Treated effluent would be piped from the sewage treatment facilities to the Vandevert parcel within existing public rights-of-way along roads and across the Little Deschutes River. The pipeline will be encased and constructed to standards to minimize risk of a break.

The effluent would be treated to the State of Oregon's Level II standards as defined by Oregon Administrative Rules. Lined storage ponds would have the capacity to store at least six months of effluent outside of the growing season.

The following features are proposed by OWW2 for the Vandevert parcel, and are being used as the basis of the analysis (Refer to Alternative B Map):

- Parcel size is 240 acres
- Irrigation system would be a center pivot sprinkler system with a 90-acre circle irrigation area
- Grass hay crop would be irrigated with the reclaimed treated wastewater during the growing season, May through October
- Hay would be harvested and sold for livestock feed
- Treated wastewater would be stored in three ponds, each approximately 3-6 acres in size. Total pond surface area would be about 15 acres
- Small building would house maintenance operations and storage
- Chain link fence would be around the ponds and maintenance building
- Treated effluent would be piped approximately 21/2 miles from the OWW2 property to the Vandevert parcel
- Access from Vandevert Road would be at the site of the existing access road
- 40-acre buffer area in the northwest portion of the parcel would remain as forest landscape, with existing forest vegetation retained
- Perimeter fencing would consist of 3-strand smooth wire fencing
- Facilities would be at least 300 feet away from Vandevert Road
- Undisturbed sites not used for facilities would be retained in a forest landscape (approximately 130 acres)

ALTERNATIVE C - SECTION 25 PARCEL

Under this alternative, 520 acres of National Forest land within Section 25 would be sold to OWW2 for siting wastewater facilities. This location was originally suggested by OWW2, but after preliminary discussions with the Forest Service it was not proposed in the Townsite Act application. It appeared that at least a portion of this parcel had high groundwater, and the Vandevert parcel appeared better suited in terms of depth to groundwater. In response to issues raised by the public during Scoping, this site is now being considered. Preliminary soils information determined that Section 25 would be a feasible option. The entire 520-acre block is being considered, because it would not be administratively desirable or

manageable for the Forest Service to retain any smaller portions of this already isolated tract.

As with the Vandevert parcel, the District would use the property for wastewater facilities in conjunction with improvements to treatment facilities located on District land. All uses would need to conform to state and local rules, regulations, and zoning. Facilities would be similar to those proposed for the Vandevert parcel and the use would essentially be the same, except that facilities would be arranged and sited to best fit this parcel.

Treated effluent would be piped from the sewage treatment facilities at OWW2 to Section 25 within the existing public right-of-way along South Century Drive. It would cross under the road, but would not need to cross any water bodies. The effluent would be treated to the State of Oregon's Level II standards, as defined by Oregon Administrative Rules. Lined storage ponds would have the capacity to store at least six months of effluent outside of the growing season.

The following features are proposed by OWW2 for the Section 25 parcel, and are being used as the basis of the analysis (Refer to Alternative C Map):

- Parcel size is 520 acres
- Forest Service would sell the entire parcel to avoid creating a more fragmented isolated tract
- Wetland area (7 acres) in the northwest portion of the property would not be used for facilities
- Facilities would be sited west of Foster Road, based on soils and groundwater information
- Two circle pivot sprinkler irrigation systems would irrigate an area about 95 acres in size
- Grass hay crop would be irrigated with the reclaimed wastewater during the irrigation season, May through October
- Hay will be harvested and sold for livestock feed
- There would be 2 storage ponds, (one 10 acres, and one 5 acres in size). The total pond area would be approximately 15 acres
- Small building would house maintenance operations and storage
- Chain link fence would be around the ponds and maintenance building
- Treated effluent would be piped approximately 1/4 mile from the OWW2 property to the Section 25 parcel
- Perimeter fence will consist of 3-strand smooth wire fencing
- Ponds and irrigated fields would be set back 300 feet from South Century Drive and 200 feet from Foster Road.
- Foster Road would continue to be used by the public
- Undisturbed sites not used for facilities would be retained in a forest landscape (approximately 405 acres)

Under either Alternative B or Alternative C, the OWW2 community would be able to have a properly designed sewage collection and treatment facility to serve all lots. This would allow them to be in

compliance with all environmental rules and regulations for waste disposal. Under either alternative, the following scenario would occur:

- Sewage treatment and collection facilities would be reconstructed at the current OWW2 location
- The aging and failing treatment plant would be decommissioned and removed
- New effluent storage and irrigation facilities would be constructed on the acquired National Forest parcel
- 200 residences now on the existing sewer system would be connected to the new system
- 70 vacant lots within the area served by the existing sewer would be added to the system when homes are constructed
- 275 homes with failing on-site septic systems or systems on lots in high groundwater would be connected to the new system, abandoning these problem systems
- 50 homes with adequate working on-site sand filter systems would be added within 10 years
- 75 vacant lots in areas of high groundwater could be approved for home construction and would be connected at the time of construction
- 330 vacant lots remaining can be built on over time, allowing the community to build out all legal and approved lots
- Build out and connection of all lots would be expected to occur by 2020

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

As part of the Townsite Act process, the applicant must show that there are no equally suitable private or public lands available to meet their needs. OWW2 had investigated and researched possible options for wastewater storage and disposal sites prior to submitting an application to the Forest Service. The following is a list of options that have been considered:

1. Property within the OWW2 Sanitary District boundary-- No additional land is available; no other land has suitable soils and depth to groundwater; existing treatment area is too small for expansion and has high groundwater.
2. Quail Run Golf Course (6 miles south)-- Would require a pipeline at least 6 miles in length; the size of the ponds would be too large for the golf course to accommodate.
3. Crosswater Golf Course (1 1/4 miles north)-- Not interested in storing and utilizing the effluent for irrigation.
4. Thousand Trails (adjacent to the southeast portion of OWW2)-- Not interested in selling the area that has potentially suitable soils; size of acreage may not be adequate.
5. Vandevert Ranch (1/4 mile east of OWW2)-- Does not have any interest in encumbering their land; they cannot sell land.
6. Mildred West Trust Land (adjacent to the north end of OWW2)-- Owners declined to become involved.
7. Donald Harris Land (adjacent to the southwest portion of OWW2)-- Owners declined to become involved.
8. 40 acres of National Forest land within the OWW2 development-- This is designated as part of

the Upper Deschutes Wild and Scenic River; has high groundwater.

9. Exchange for National Forest land instead of purchase-- OWW2 has no property to exchange; financial ability to acquire land for trade is very limited; early discussions with Deschutes County did not identify parcels owned by the county or that the county could acquire that could be considered for an exchange; a land exchange tends to take longer time to process and would delay resolving groundwater contamination issues and environmental violations with DEQ.
10. Sell all the National Forest land (920 acres) identified in Tract C that lies north and south of Vandevert Road and use the extra land as a buffer area-- OWW2 would not have the financial capability nor the need to purchase the entire parcel; a buffer area of that size would not be needed.
11. Pipe all the raw sewage from OWW2 to Sunriver Resort-- All sewage and effluent would be transported approximately 4 1/2 miles by pipeline, possibly along a similar route as proposed in Alternative B, and would involve crossing the Little Deschutes River. The sewage would be treated at the existing sewage treatment plant in the Sunriver community, and the treated effluent would be disposed of by irrigation of the Sunriver golf courses or adjacent land. This potential option had been proposed in July 2000, and has been discussed between OWW2 and Sunriver Resort since that time. Several state and county agencies became more actively involved in the discussions in August 2001, as they thought this could be a favorable option. While technically feasible, it does not appear to be economically feasible or viable for either OWW2 or Sunriver Resort. OWW2 has a fixed and limited budget available to them, based on a voter approved bond measure, projected grants and loans, and commitments made to the residents. State and county agencies evaluated public funding sources, but could not provide additional funds or support to make this economically possible. Much higher initial costs, monthly rates, and potential future costs would be needed in order to fund a Sunriver option. These increased costs would be too great and would be an adverse impact on the low-income OWW2 community. If this had been a viable option, OWW2 would not need the Forest Service property and would withdraw their Townsite Act application.

SECTION III. DESCRIPTION OF THE PROPOSED USE

This section describes the proposed use and includes information about sewage treatment plants and processes in order to provide the public an accurate depiction of what is involved to better understand OWW2's proposal. The purpose of this EA, however, is not to analyze the engineering or technical details of the proposed facility or its intended use, as that is beyond the scope of this analysis. Other regulatory agencies, such as DEQ, have the responsibility and jurisdiction to review and regulate the siting and operation of the facility.

Under the authority of the Townsite Act, the Forest Service must determine that the public benefits from the sale of land outweigh the public benefits of retaining the land in National Forest ownership. In order to identify the benefits, the Forest Service needs to consider the intended use and evaluate the benefits

and environmental effects.

The proposed use is the same for either of the two parcels of National Forest land being considered. The layout of the facilities would differ in order to best suit the parcel, but the overall improvements, system, and operation would be the same.

OVERVIEW OF THE SEWAGE TREATMENT PROCESS

"Sewage" is the water-borne wastes of a house or community and consists of both solid and liquid material. It is transported by pipe to either a septic tank, for on-site treatment for a home, or to a central sewage treatment plant serving a community. The sewage treatment process is a natural process of cleaning and recycling water, and it is an essential requirement for all communities and households.

SOLIDS AND SLUDGE-- At the sewage treatment plant, the incoming raw sewage is passed through a series of screens to remove solid objects, such as pieces of wood and plastic, for preliminary treatment. The collected debris is disposed of in a landfill. The sewage then travels through a grit removal system, which allows grit, sand, and smaller solid material to settle out. The remaining sewage flow continues on to sedimentation tanks or ponds which allow the organic solids, or sludge, to settle out. The sludge is pumped into digesters where it is organically decomposed by natural bacteria. The digested sludge may be dehydrated and transported off-site for use as a soil conditioner or fertilizer, as it is rich in organic matter. Sludge often has strong odors. Removing the solid materials finishes the "primary" treatment,. The clarified wastewater, or effluent, continues on for further treatment.

WASTEWATER-- With the solid organic and inorganic material removed, the wastewater or "effluent" next goes to aeration ponds for "secondary" treatment. This is the biological treatment process that uses oxygen and microorganisms to remove dissolved organic matter from the wastewater. Aeration is part of the natural process where microorganisms consume organic matter as their food source and break down the organic content. (Under anaerobic conditions, however, such as those occurring in septic tanks or without oxygen, breakdown of the organic matter is slow, odorous, and incomplete.) The oxygenated wastewater then moves on to another pond for further aeration and microbial action.

"Tertiary" treatment involves the last stage of the process where the effluent is polished by passing through a series of very fine filters. It is also chlorinated for disinfection. Chlorination kills the microorganisms as the final treatment. Treatment systems may add a chlorine-neutralizing chemical to the treated wastewater. The treated effluent is then ready for disposal or reuse.

Unlike anaerobic on-site septic systems, this effluent is very low in nitrates because of the aerobic biological process. In many parts of the country, as well as within the state of Oregon, treated effluent is disposed of by discharging into rivers or waterways. Using reclaimed water for beneficial uses is becoming more popular, particularly as existing treatment facilities are upgraded or new ones are being constructed. Permitted uses of the wastewater depend on the level of treatment of the effluent. Common uses include irrigation of crops, greenhouses, or golf courses. The type of use determines what the required treatment level is for the wastewater. Oregon DEQ Division 54 rules govern land application of

treated wastewater in Oregon.

SEPTIC SYSTEMS-- Most homes with on-site systems have septic tanks and drainfields. In this process, the sewage flows from the house to an underground tank where solids settle out and are treated under anaerobic conditions. The liquid waste flows into an underground drainfield and is disposed of by seeping into the ground. To be effective, septic systems must be properly sited in suitable soil and adequate groundwater conditions. The wastewater that is discharged from these systems is high in nitrates and odorous.

WATER TREATMENT LEVELS

Reclaimed water treatment levels (I-IV) are different from the levels of sewage treatment (primary, secondary, and tertiary) described above. Treatment, monitoring requirements, and allowable beneficial uses of treated effluent are based on levels of quality of the reclaimed water, as described in Oregon Administrative Rules for DEQ (OAR 340-55-015). These quality levels are Level I, II, III, and IV, with Level I having the least amount of treatment and the least amount of allowable uses.

Properly treated wastewater does not have objectionable odors. As long as the wastewater is treated in a manner that ensures aerobic bacteria are allowed to thrive, any organic materials will be converted and the resulting treated effluent is clear and odor free. The potential for odors exists when the aerobic system is allowed to become oxygen deficient. Ponds are mechanically aerated to assure that aerobic conditions are maintained. Sampling, monitoring, and DEQ oversight ensure that facilities are properly maintained and operated.

EXISTING TREATMENT FACILITIES AT OWW2

Presently, the District treats the community's sewage entirely on the OWW2 property using a process similar to that described above. However, the capacity of the ponds and irrigation facilities for wastewater treatment and disposal is too small and inadequate. This is compounded by the fact that there is very shallow groundwater in that area, so the ground may already be saturated and cannot absorb and filter additional water. As a result, the treatment is not acceptable to meet today's environmental rules and regulations and is in violation of DEQ regulations. During disposal, the wastewater is used to irrigate a 4-acre lawn, but is being applied at rates much greater than what the grass can utilize. As a result, not all the nitrates may be taken up. The ponds are too small to adequately store the wastewater outside of the growing season. The District is planning to reconstruct and upgrade the sewage treatment facilities at their existing location on the OWW2 property. However, there is not enough land available to accommodate improved and expanded wastewater facilities or to allow them to function properly.

PLANNED FACILITIES

The existing sewage treatment plant is at capacity and handles the sewage for approximately 20% of the community, or 200 homes. In conjunction with the new wastewater facilities on the land to be acquired from the Forest Service, the existing facilities at OWW2 would be upgraded and rebuilt to serve these existing homes, plus the homes that are currently on septic systems as well as the lots that cannot receive approval for construction because of high groundwater. It will provide sufficient capacity for build-out

of the remaining approved lots. Solid waste matter would continue to be treated on the OWW2 property and only the treated wastewater would go to the newly acquired site for final treatment, storage, and irrigation.

SIMILAR FACILITIES IN CENTRAL OREGON

LA PINE COMMUNITY-- In the 1980's the community of La Pine purchased approximately 200 acres from the Bureau of Land Management under the authority of the June 14, 1926 Recreation and Public Purposes Act and developed the site for effluent storage ponds and irrigation. This facility is comparable to what OWW2 proposes, as it irrigates a hay crop and uses a center pivot sprinkler system, and treats to a similar level. The closest residences are approximately 1/2 mile away.

CITY OF SISTERS-- In 1999, the city of Sisters purchased 160 acres of National Forest land under the Townsite Act authority for construction and operation of sewage treatment and wastewater facilities. This is a new system, which will eliminate individual on-site septic systems and allow for community growth of residential and commercial areas. This case differs from OWW2 in that the Sisters' system serves commercial businesses, and all sewage treatment facilities will be on the acquired National Forest property, while only the effluent system would be on the land acquired by OWW2. The Sisters facilities may be as close as 100 feet from neighboring residences. The effluent will be used to irrigate forest vegetation. This facility also treats the effluent to a level similar to that proposed by OWW2. The main sewage pipeline crosses Squaw Creek, compared to OWW2's need to cross the Little Deschutes River with just an effluent pipeline in Alternative B. Construction is underway, and the Sisters' facilities are only partly operational at this time.

SUNRIVER RESORT-- In 2000 the private utility company serving Sunriver Resort completed a land exchange with the Forest Service and acquired 375 acres of National Forest land for storage and disposal of treated effluent. This facility has been operational for more than a year. It is an expansion of the existing sewage treatment facilities which are located within the Sunriver Resort community, and was constructed to increase the capacity for effluent storage and disposal. The resort's facility treats the effluent to a higher quality so that it can be stored in the golf course ponds and used with fewer restrictions to irrigate golf courses. Nearest residences to the effluent facilities are less than 700 feet away, but residences are within approximately 200 feet of the sewage treatment plant facilities.

SECTION IV. ENVIRONMENTAL EFFECTS

Section IV evaluates the effects of conveying specific parcels of National Forest land to OWW2 and discloses environmental effects expected as a result of each alternative. This section provides the scientific and analytic basis for comparing alternatives. Mitigation measures and monitoring are addressed in this section.

The discussion that follows describes the expected effects from the sale and planned use of the

Vandevert parcel (Alternative B, Proposed Action), and the Section 25 parcel (Alternative C). The effects of the No Action alternative (Alternative A) is described first, and provides information on the existing conditions which can also be used a baseline from which to compare effects.

EFFECTS OF ALTERNATIVE A: THE NO ACTION ALTERNATIVE

Under this alternative, there would be no sale of National Forest property to the OWW2 Sanitary District and their Townsite Act application would be denied. There would be no development of storage ponds, irrigation field, or other facilities on either site. The two parcels would remain as National Forest System lands, at least for the very short-term. Since both parcels are also included in the Tract C lands of the Bend Pine Nursery Land Conveyance Act, they would be considered for disposal under that authority in the near future. The No Action alternative would not meet the Purpose and Need. Predicted effects of No Action are described below.

Continuing failure of individual on-site septic systems coupled with in increasing age of the District's existing treatment facilities would result in a continued and increasing risk of contamination of groundwater in the La Pine Basin. OWW2 would continue to be in non-compliance with DEQ environmental regulations and subject to civil penalties. OWW2 has shown in the Townsite Act application process that there are no other viable options to their proposed purchase of federal land. Therefore, if the No Action alternative is selected, the community's waste disposal and environmental situation will continue to exist and worsen over time. Only lots approved for sand filter systems could be developed, and only if Deschutes County would continue to approve them. All 70 undeveloped lots in the area served by the sewer system may not be able to be built on and connected to the sewer system in its current condition. There could be a decline in property values or marketability for the OWW2 community and nearby areas because of a lack of an acceptable waste disposal system and groundwater contamination.

The selection of the No Action alternative would set precedence in the central Oregon area. Denial of conveyance of suitable land to resolve a community need would be contrary to the intent of the Townsite Act of 1958 and would be a departure from how the Forest Service and other agencies have responded in the past to resolve similar environmental and community needs in Deschutes County. Similar projects that were approved and federal land conveyed for sewer or wastewater purposes in southern Deschutes County include the sale of Bureau of Land Management land to the community of La Pine, and Forest Service land to the City of Sisters and Sunriver. BLM has also sold several hundred acres of land to the cities of Bend and Redmond for sewage treatment and wastewater disposal, and is currently evaluating a request for additional acreage to expand the Redmond facility.

Selection of the No Action alternative would be contrary to the goals in the Forest Service Strategic Plan and contrary to the top priorities for the Pacific Northwest Region, as described in the August 7, 2001 Strategic Plan for Forests and Grassland of Central Oregon. These priorities direct the Forest to do its part to clean up the water, contribute to community vitality, and provide services and benefits for people. The No Action alternative would be counter to these goals and priorities, especially in terms of impacts

to the OWW2 community and contamination of the groundwater.

Under the No Action alternative, there would be no opportunity to make the necessary improvements to the existing sewage treatment and effluent facilities. Limited repairs could be made, but these would not be a solution and would not correct existing groundwater and disposal problems. DEQ approved OWW2's facilities plan update which proposes a collection, treatment, and disposal system, with the storage ponds and spray irrigation using the off-site National Forest location. Upgrades of existing facilities alone would not address the inadequate effluent storage and disposal situations or solve the groundwater contamination problem.

If the decision to select the No Action alternative is made, it may be contrary to the goals and objectives of Deschutes County's Regional Problem Solving (RPS) Project and to the January 5, 2000 Memorandum of Understanding between the Board of County Commissioners and the Deschutes National Forest. In the MOU, the Forest Service and County agree to "Support expansion of existing sewer systems or installation of new systems, to help manage waste collection and disposal in an environmentally acceptable manner in order to protect the quality of the groundwater and the Deschutes River." The MOU also states that OWW2 is "a promising candidate to help solve groundwater issues in one area within the RPS area. It is recognized that they are a suitable candidate to go forward with a proposal for sewer improvement and expansion, but they may need National Forest lands to help accomplish this." The county recognizes that OWW2 is one of the subdivisions in the south county region that has a permitted community sewage collection, treatment, and disposal facility. Deschutes County encourages and supports the upgrading and expansion of the facility.

Selection of the No Action alternative would mean that there would be no improvement to the quality of the groundwater. This opportunity to help reverse the trend of groundwater contamination would not be available. The existing facilities would remain inadequate. There would continue to be insufficient storage capacity during winter months and a risk of the existing pond overflowing. Effluent would continue to be applied above the agronomic rate and outside the irrigation season, and the potential for the effluent to be discharged directly or indirectly into the Deschutes or Little Deschutes Rivers would continue to exist. Contamination of groundwater would increase and worsen over time as the facilities continue to age and deteriorate, and as more septic systems fail.

Deschutes County has concluded that on-site septic systems are the only significant source of nitrates in the La Pine sub-basin. However, the failure of both the existing treatment system and on-site septic systems in the OWW2 development would continue the current trend of increasing nitrate levels in the groundwater. DEQ groundwater quality protection rules require that all groundwaters of the state be protected from pollution. During the winter, raw sewage is stored in the existing pond, and due to the inadequate facilities, DEQ is concerned that this sewage might escape and contaminate groundwater. Under wet or extended winter conditions, it is possible that the storage pond could overflow, or that the effluent, which has not been properly treated, would have to be irrigated over frozen ground. Neither of these options are environmentally acceptable but could be necessary to avoid an uncontrolled overflow.

Deschutes County Public Health Department has stated that the nitrate level in the OWW2 effluent is high enough to indicate a change is needed. DEQ indicates that thus far, monitoring wells located around the existing irrigation site have not confirmed groundwater contamination. Because of the known existing condition of the collection and treatment facilities and the shortcomings of the storage and disposal site, contamination is occurring from sewage leaking and seeping into the ground without being properly treated. The quantities of nitrates in the groundwater may not be detected or known, but if entry can be prevented from occurring, groundwater quality will be improved. Lack of evidence in nearby wells could be because of the rapid movement of the shallow groundwater and dilution into the groundwater resource which reduce it to undetectable levels.

Effects of the No Action alternative specific to each of the two parcels are described below.

VANDEVERT PARCEL

Effects described are expectations of what would occur during the short-term under the No Action alternative, and assumes the parcel would be in public ownership during that time. The effects described below for the Vandevert parcel would also be the same under Alternative C, if Section 25 is selected.

LAND USE

The Vandevert parcel is approximately 240 acres in size, and is located 16 miles south of Bend and 2 miles south of Sunriver, in Sections 16 and 17, T. 20 S., R. 11 E., W.M. Vandevert Road forms the southern boundary and the Burlington Northern Railroad is the eastern boundary. There is adjoining National Forest land on the west and north sides, and part of the northwest corner adjoins private land. Oregon Water Wonderland Unit II Sanitary District is located 3/4 miles to the west.

The majority of this parcel is within Management Area 9, Scenic Views, with the remainder in Management Area 8, General Forest, as described in the 1990 Land and Resource Management Plan (LRMP) for the Deschutes National Forest. The goal of this designation is to provide Forest visitors with high quality scenery that represents the natural character of central Oregon. The Land Adjustment Plan identifies this parcel in two categories. The portion in Section 17 is within Group 3, Subgroup C1, which is defined as "Areas of mixed private and federal ownership". Rearrangement of ownership is permitted to benefit production goals and for the mutual benefit of landowners. The portion that is in Section 16 is within Group 3, Subgroup A, which is identified as "Consolidated blocks of federal ownership that will normally be retained", although this is not actually part of a consolidated block, according to the depiction on the LRMP Land Adjustment Plan map. These National Forest lands can be used to acquire higher priority lands for National Forest use, and Group 3 lands have been given a "Priority 2" for use for this purpose. In Standard and Guideline LA-5, the LRMP provides for deviations to take advantage of opportunities as they arise. General land adjustment direction for the Deschutes National Forest includes a disposal objective to provide communities with the opportunity to acquire lands needed for expanding community purposes, where such acquisition is consistent with National Forest management

objectives.

This parcel is considered as having lost its National Forest character and is difficult to effectively manage for National Forest purposes. Its proximity to housing developments, railroad tracks, a major highway, and private lands limit the effectiveness of vegetation, wildlife, recreation, and other Forest management programs. Highway 97 and the railroad separate this parcel from the large consolidated tract of National Forest land that lies to the east. Evidence of urban civilization, such as powerlines, railroad, unauthorized roads and trails, and piles of household garbage are indications that this land has lost its National Forest character. Tracts such as this become increasingly more difficult to manage as unauthorized and inappropriate use by people increase.

The Bend Pine Nursery Land Conveyance Act of 2000 recognizes the isolated nature of this area and associated management problems and included this parcel as part of the Tract C lands identified for disposal and conveyance into private ownership.

WATER RESOURCES

This parcel is located approximately 1/2 mile east of the Little Deschutes River. There is no surface water on this parcel, and the groundwater table is expected to be 20 to 50 feet below the surface over most of the parcel. In the lower southwest corner, it may be only 6 to 8 feet deep. Groundwater under this parcel flows to the northeast into the fractured and permeable lava flows of Newberry Volcano, away from the Little Deschutes River. There would be no effects to ground or surface waters associated with or adjacent to this parcel if it is not conveyed to OWW2.

There are no wetlands or water rights on this parcel.

WILDLIFE RESOURCES

Oregon Department of Fish and Wildlife (ODFW) has identified this area as being within a low priority migration corridor, but the area is used by deer and elk during both winter and summer migration. The parcel currently provides medium quality cover habitat but low quality forage habitat for both species. Under the No Action alternative, habitat would be retained as it currently exists, allowing for movement and migration throughout the parcel. Continued development of adjacent private lands and current trends of growth, would make these sites more critical for migration in the future, and for providing limited hiding cover.

This site provides medium quality foraging habitat for northern goshawk, Cooper's hawk, sharp-shinned hawk, and red-tailed hawk and low to medium foraging habitat for great gray owls. Existing conditions provide medium quality nesting habitat for red-tailed, Cooper's and sharp-shinned hawks, as well as great gray owls. Improvement of red-tailed hawk nesting habitat would not occur until large trees develop. Nesting habitat for goshawk is currently low quality but may develop within the next 20 years when the understory lodgepole grows beneath the ponderosa pine and stand density increases.

The lack of large diameter trees provides no nesting habitat for bald eagles. Eagles have been observed

to use the Deschutes and Little Deschutes Rivers during nesting season and summer months. This alternative would have no effect on bald eagles or eagle habitat.

This site contains the only stands of trees large enough to support osprey nests and is within 1/4 mile of the Little Deschutes River, however, this parcel has few, if any, large diameter snags which are the preferred habitat for osprey nests. This alternative would retain any existing nesting habitat.

The limited numbers of snags indicate low quality nesting habitat for cavity nesters such as woodpeckers, flickers, sapsuckers, and nuthatches. Current stand conditions provide marginal quality foraging habitat for such species. This alternative would maintain current conditions.

Existing stand conditions favor neotropical migratory and short-distance migratory bird species that forage for food and nest in younger forests. This parcel provides medium quality foraging and nesting habitat. Dense thickets have little or no understory and therefore ground foragers decline or disappear until stand conditions change and understory vegetation becomes re-established. The white-headed woodpecker, pygmy nuthatch, and chipping sparrow are focal species in ponderosa pine, and the black-backed woodpecker in lodgepole pine. This alternative would not change the amount of habitat available to such species although distribution would be expected to change as existing stands mature.

There is no habitat present on or adjacent to the parcel for waterfowl or great blue heron. There would be no effect on these species.

This parcel potentially provides medium quality foraging habitat for bats but low quality roosting habitat due to the lack of large ponderosa pine snags, rock outcrops or caves. The close proximity of the Little Deschutes River and larger insect population in that area increases the probability for the use of the area as bat foraging habitat. This alternative would not affect bat habitat.

EFFECTS ON NEARBY PRIVATE PROPERTIES

The nearest housing development, along Blue Eagle Road, is approximately 1/4 mile south of the parcel and across Vandevert Road. The nearest development to the west, Vandevert Ranch, is slightly more than 1/4 mile from the parcel boundary, and Crosswater Resort is about 11/4 miles northwest. Although private land adjoins the northwest portion of the parcel, no developments currently exist there. If the parcel stays in public ownership, there would be no effect on nearby properties. What, if any, effect or value this parcel may contribute to or diminish from the values of nearby private properties would not change.

Use by nearby residents for walking, wildlife viewing, recreational driving, dumping of household garbage, and other activities would not change. There would be no change in existing visual characteristics of the site.

ODORS

Any non-natural existing odors common to this parcel would likely be related to vehicle exhaust from

traffic on the nearby highway or roads. The No Action alternative would not create any new odors.

RECREATION, ACCESS, AND PUBLIC USE

This parcel contains 2.3 miles of Forest Service roads and 0.3 miles of unclassified roads. The site would remain open to public access and use under the No Action alternative. Existing use is from people living in the general vicinity and people driving on Vandevert Road. Existing roads and trails, both authorized and unauthorized, would continue to provide access for motorized and non-motorized vehicles as well as visitors on foot. Due to the relatively flat terrain and easy accessibility, additional unauthorized roads and trails would be expected. The value of the site for a recreation experience would be influenced by nearby roads, Highway 97, the railroad, and the powerline, however it may provide a convenient location to visit for some people.

Illegal firewood cutting would continue. Unauthorized roads would likely be created to provide more convenient access to wood.

Based on current trends, rural housing and resort development on private lands in the general vicinity is expected to continue to expand and grow, potentially resulting in more people using the site. This would likely result in an increase in the number of illegal garbage dump sites.

There are four utility right-of-way corridors located within the boundaries of this parcel that require access for periodic maintenance or repair. There is a buried powerline and telephone cable along the north side of Vandevert Road, a 115-kv overhead transmission line that runs north-south through the parcel, and a buried fiber optic cable in that same area. Deschutes County was granted an easement for Vandevert Road in 1970. There would be no change in the status of these rights-of-way or easements or their access.

SCENIC RESOURCES

Vandevert Road (Forest Road 42) is an access route from Highway 97 to National Forest recreational sites to the west. It also provides access to residents of nearby housing areas, and to the Cascade Lakes National Scenic Byway. According to the Deschutes National Forest LRMP, which guides management of the site as long as it is in federal ownership, lands along Vandevert Road are identified as being within the "Slightly Altered Landscape with Medium Level Scenic Integrity (Partial Retention, SV-2)" category. The landscape character goal for this area is to achieve a naturally appearing landscape where management direction, Desired Future Conditions (DFCs) and the social and ecological framework of the management area are met.

Forest stands on this parcel are currently a mixture of second growth ponderosa pine intermingled with thickets of similarly aged lodgepole pine. Sagebrush and grasses dominate understory vegetation. The DFC for these stands in foreground landscapes is to maintain or create a mosaic of stands with essentially continuous tree canopies with scenic diversity provided by natural appearing openings that resemble those found in natural landscapes. On flat terrain similar to that found on this parcel, 300 feet from Vandevert Road would be the distance managed for this DFC.

The next major planning effort this area would be in 2003, so there would be no obvious change in the existing forest character of the parcel in the near future. In the longer term and without vegetation management activities, changes would include increased stand densities of lodgepole pine and decreased sizes of openings, resulting in gradual changes in both scenic character and integrity. DFCs for this parcel may not be met, but if vegetation management activities are prescribed and implemented, both scenic character and integrity would be more likely to be maintained.

HERITAGE RESOURCES

Four historic or archeological sites are located on the parcel, one of which is eligible for the National Historic Register. Date from this site has been recovered and documented. There would be no effect on any National Register eligible historic or archaeological sites by keeping the parcel in federal ownership.

SOIL RESOURCES

Fractured lava from Newberry Volcano underlies most of this parcel, although the extreme southwest corner appears to have sedimentary materials. Soil depth over the lava averages approximately 3 feet, but this is widely variable across the parcel. These soils are excessively well drained.

Current impacts to soils are primarily displacement and erosion associated with vehicle traffic on the dirt roads. Under the No Action alternative, there would be no change to the soil resources.

VEGETATION

The current timber stands are a mixed forest of predominately 50-70 year old lodgepole and ponderosa pine with a scattering of larger overstory ponderosa pine. Lodgepole dominates the second growth stand both in numbers and distribution. The lodgepole is primarily found in relatively dense thickets and trees of various diameters and heights. The second growth ponderosa pine is characterized by individuals or small groups of several trees adjacent to lodgepole pine thickets. Stands within this parcel contain a range of tree size classes ranging from seedlings to saw timber sizes, and have a relatively open character. Understory consists of sagebrush, bitterbrush, and native grasses.

Most timber harvest activities on this parcel occurred during the 1920's and 1930's, prior to acquisition by the federal government in 1944. Large diameter ponderosa pine trees were harvested leaving smaller diameter trees and lodgepole which were of little or no value. Since the initial harvest 60-80 years ago, there has been little planned timber harvest activity within the parcel. Forty-six acres along the north boundary of the parcel was harvested in 1992 and 1994 targeting lodgepole pine, and heavy thinning was done around residual ponderosa pine. Timber volumes associated with this parcel are relatively low, and no timber harvest activity is currently planned.

The primary damage agent present is gall rust in the lodgepole pine. Unless vegetation management activities are prescribed and target infected trees, the level of infestation would be expected to slowly increase with gradual reductions in growth rates and subsequently volume losses. The stands in this parcel are currently below the age of susceptibility for mountain pine beetle. Existing stand conditions, particularly high stand densities and the preponderance of lodgepole pine, increase the risk of future

bark beetle attack. Without vegetation management activities that reduce stocking levels and favor a change in species composition, these stands would become susceptible to beetle attack within the next several decades. There would be an increase in the risk of wildfire due to the expected fuel buildups.

Potential habitat was found for *Castilleja chlorotica*, a sensitive plant species. A field survey was conducted and no threatened, endangered, or sensitive (TES) plant species were located. No habitat was identified for any other TES plant species. Under the No Action alternative, there would be no impact to these species or their habitats.

No noxious weeds have been identified on or adjacent to this site. This parcel has been rated as a moderate risk in this alternative as it has several potential vectors present in the project area that could transport seeds or weeds. Past timber harvest activity has utilized heavy equipment for skidding, loading, and hauling timber and if future harvest is planned, would do so again. Maintenance and repair of the powerline requires periodic use of large trucks and equipment. There is also evidence (tracks and trails) of use by off-road vehicles. In addition, both Vandevert Road and South Century Drive are likely candidates for future weed infestations due to their heavy use by vehicles that may have traveled from areas of existing noxious weed infestations. There would be no change in the risk level of this parcel under this alternative. A spray program to control existing noxious weed infestations along Forest roads or roads crossing National Forest lands has been used for the past several years, but it does not presently include this portion of Vandevert Road.

FIRE RISK AND FUELS

Fire suppression and exclusion have resulted in denser stands dominated by lodgepole pine, which is more susceptible to damage when burned. The risk of crown fires has increased because of increased stocking levels and the development of ladder fuels. The lack of vegetation management activity on most of the parcel has retained the moderate to high risk of wildfire and of crown fires by retaining high stand densities and ladder fuels. The lack of harvest activity over the next one to two decades would result in an increased risk of both wildfire and the occurrence of crown fires.

Heavy fuel loadings associated with increased mortality due to normal stand development processes and potentially from insect attack, would be expected to increase the risk of a catastrophic wildfire. Risk to nearby developments, including houses, would increase.

With no conveyance and no change in management, there would be no immediate change in fuel loading or risk of wildfire. The increasing development of nearby private properties could increase the potential loss of structures and personal property, and an increase in public use could increase the risk of a human-caused wildfire occurring. However, the risk of damage or loss to residences is relatively low given that there are none immediately adjacent to the parcel. This parcel would contribute to increasing the overall fire risk of the general area, but other larger tracts of nearby National Forest and private lands would have a greater influence.

GEOLOGY AND MINERALS

As there are no known mineral, oil, gas, or geothermal resources associated with this parcel, there would be no effect on those resources under any alternative. These would not contribute to the value or use of the parcel.

SECTION 25 PARCEL

Effects described are estimates of what would occur during the short-term under the No Action alternative, and assumes the parcel would be in public ownership during that time. This parcel was included in the recent Klak Planning Area environmental assessment, and no new management activities were proposed for this parcel. The effects described below for the Section 25 parcel would also be the same under Alternative B, if the Vandevert parcel is selected.

LAND USE

The Section 25 parcel is 520 acres in size, and is located approximately 18 miles south of Bend and 4 miles south of Sunriver, and is described as T. 20 S., R. 10 E., Sec. 25, E 1/2 , E 1/2 W 1/2 , SW 1/4 SW 1/4 . South Century Drive and Foster Road go through the property. Private lands surround the parcel, except for the southwest corner, where it adjoins other scattered National Forest land. Oregon Water Wonderland Unit II Sanitary District is located directly to the northeast, and shares a corner with this parcel.

The National Forest lands in Section 25 are within Management Area 8, General Forest, as described in the 1990 LRMP. The goal for management of these lands is to emphasize timber production while providing other resources and recreational opportunities for public use and enjoyment. The objective is to have managed stands of timber in a variety of age classes. The Land Adjustment Plan identifies the parcel as being in Group 3, Subgroup C1, which are "Areas of mixed private and federal ownership". Rearrangement of ownership will be permitted to benefit production goals and for the mutual benefit of landowners. Group 3 lands have been given a "Priority 2" to be used to acquire higher priority lands. Standard and Guideline LA-5 states that it may be necessary to deviate from this ranking in order to take advantage of opportunities as they arise. General land adjustment direction for the Deschutes National Forest includes a disposal objective to provide communities with the opportunity to acquire lands needed for expanding community purposes, where such acquisition is consistent with National Forest management objectives.

The Section 25 parcel is isolated from other National Forest land and nearly completely surrounded by private lands and rural housing. Foster Road goes through the property and is used by the public to access homes and other National Forest lands. A number of management problems resulting from the isolated nature of the parcel are evident, and include encroachments and trespasses from adjoining private lands, illegal woodcutting, unauthorized roads and trails, and dumping of household garbage. This parcel is considered to have lost its National Forest character, and is difficult to effectively manage for Forest Service purposes. It may not be evident to the casual visitor that this is National Forest land.

The Bend Pine Nursery Land Conveyance Act of 2000 recognizes the isolated nature of this area and associated management problems and included this parcel as part of the Tract C lands identified for disposal and conveyance into private ownership.

This parcel is adjacent to but not within the designated boundary of the Upper Deschutes Wild and Scenic River corridor.

There is a discrepancy in the boundary location for the west side of this property. This discrepancy is tied to a larger landline and survey issue and is currently being investigated. Once this is resolved, the west boundary will be surveyed and re-posted. Estimates indicate the exact boundary location may vary by 10 to 20 feet.

WATER RESOURCES

This parcel is located between the Deschutes and the Little Deschutes Rivers. The Deschutes River is 1/4 to 1/2 mile to the north and west of the parcel, and the Little Deschutes River is approximately 3/4 miles east. Preliminary soil studies indicate that depth to groundwater varies over the parcel, depending on soil and variations in the terrain. On the east side of the parcel, the water table comes close to the surface in the spring (when the water table is at its highest), but on the west side, the groundwater stays below 30 inches. Studies indicate that over much of the parcel, including the west portion, the depth to water ranges from 30 inches to greater than 5 feet. Over the remaining portion, including the eastern side, the depth to groundwater is 12 to 30 inches, with groundwater being closest to the surface in low spots in the terrain. Groundwater on this parcel flows to the Deschutes or Little Deschutes Rivers.

There are no streams or other surface water on this parcel, but a small wetland area approximately 7 acres in size is located in the northwest portion of the parcel where the water table is at or within inches of the surface a significant portion of the year. This wetland is associated with an old meander of the Deschutes River. Five small ponds, including one approximately 2 acres in size, were illegally dug in the wetland area. The Forest Service is investigating and may require that the site be restored to an acceptable condition.

There would be no effects to ground or surface waters associated with or adjacent to this parcel if it remains in federal ownership. Housing developments in areas of shallow groundwater in southern Deschutes County have created a regional risk and concern about contamination of groundwater and shallow domestic wells from on-site septic systems. If the No Action alternative is selected, then the portion of the contamination problem that could be attributed to OWW2 would continue to occur and worsen. There would be no opportunity for improvement to the groundwater resources.

There are no water rights on this parcel.

WILDLIFE RESOURCES

This parcel has been identified by ODFW as a high priority deer migration corridor, and provides a migration route for deer and elk through an area that is increasingly becoming more urbanized and

developed. It provides a relatively large undeveloped area that the animals can use between residential areas. The area is used by both species during winter and summer migration as they travel to and from the higher National Forest lands. Although the area is fairly open, this parcel provides high quality hiding cover for both deer and elk. It also provides high quality forage habitat for deer but only medium quality forage habitat for elk. Under the No Action alternative, habitat would be retained as it currently exists, allowing dispersing animals to move and use the area for migration. Hiding cover for the animals would be retained where it currently exists. Expanding development of surrounding and nearby private lands, based on recent trends, make this site more critical for deer and elk migration into the future.

Due to the structure and condition of the timber stand, this site provides medium quality foraging habitat for northern goshawk, Cooper's hawk, sharp-shinned hawk, and red-tailed hawk and low to medium quality foraging habitat for great gray owls. Existing conditions provide low quality nesting habitat for Cooper's and sharp-shinned hawks and low to medium quality nesting habitat for great gray owls. Conditions for these species and activities would remain. Nesting habitat for red-tailed hawks is either non-existent or is of low quality. Nesting habitat and improvement in the quality of existing habitat would be limited unless larger diameter trees are present. Due to the lack of large ponderosa pine trees, there is no nesting habitat for northern goshawk. Development of nesting habitat may not ever occur due to the relative lack of ponderosa pine trees.

The young, small diameter lodgepole pine dominating this site provides no nesting habitat for bald eagles. Proximity to both the Little Deschutes and Deschutes River provides suitable foraging habitat and eagles have been observed to use the Deschutes and Little Deschutes during nesting and summer months. This alternative would have no affect on bald eagles or eagle habitat.

The limited numbers of snags provide low quality nesting habitat for cavity nesters such as woodpeckers, flickers, sapsuckers, and nuthatches. Current stand conditions provide medium quality foraging habitat for such species. This alternative would not affect current conditions.

Existing stand conditions favor neotropical migratory and short-distance migratory bird species that forage for food and nest in younger forests. This parcel currently provides marginal quality nesting habitat and high quality foraging habitat for these species. The black-backed woodpecker is the only focal species of interest in lodgepole pine. This alternative would not change the amount of habitat available although distribution would be expected to change as existing stands continue to develop.

There is no habitat present on or adjacent to the parcel for waterfowl, osprey, or great blue heron.

This parcel potentially provides medium quality foraging habitat but low quality roosting habitat for bats due to the lack of suitable ponderosa pine snags, rock outcrops or caves. The close proximity of the Deschutes and Little Deschutes Rivers increases the probability for the use of the area as bat foraging habitat, because of the larger insect population. This alternative would not change the amount of habitat available or its use.

If this parcel remains in public ownership, there would be no immediate effects or changes to wildlife species or habitat.

EFFECTS ON NEARBY PRIVATE PROPERTIES

With the exception of a quarter mile section along the southwest boundary, this parcel is surrounded by private lands and developments. Oregon Water Wonderland Unit I borders on the west, Deschutes River Recreational Home Sites development is to the north, Pinewood Estates is to the south, and other residences are to the east. The southwest corner of OWW2 shares a common corner with the northeast corner of the Section 25 parcel. On the east and west sides, residences are adjacent to the property boundary. If the Section 25 parcel remains in public ownership, there would be no effect on nearby properties. What, if any, value this parcel may contribute to or diminish from the values of nearby private properties would not change.

Use by nearby residents for walking, wildlife viewing, recreational driving, dumping of household garbage, and other activities would not change. There would be no change in existing visual characteristics of the site.

ODORS

Any non-natural existing odors common to this parcel would likely be related to adjacent residences and developments, such as wood smoke or vehicle exhaust. Retaining this property in federal ownership would not create new odors.

RECREATION, ACCESS, AND PUBLIC USE

This parcel contains 1.7 miles of Forest Service roads and 2.3 miles of closed roads. The site would remain open to public access and use. Existing roads and trails, both authorized and unauthorized, would continue to provide access for motorized and non-motorized vehicles as well as visitors on foot. Roads and trails that have been obliterated, barricaded, and closed by prior management activities would be expected to continue to be used and re-opened by off-road or 4-wheel drive vehicles. New trails or roads may also be created given the flat terrain and ease of access from adjacent properties and existing roads.

Discussions have occurred between the Deschutes National Forest and Deschutes County regarding the transfer of Foster Road to county ownership and maintenance, and it is expected that road jurisdiction will transfer to the county at some point in the future. Whether in county or National Forest ownership, Foster Road would remain open to the public and for access to National Forest lands to the southwest.

Trespass and illegal use, including firewood cutting and dumping of garbage, occurs on the parcel. Some encroachments are found along the boundary with private land. There is a question about the precise location of the property boundary along the west side due to a discrepancy in the cadastral survey, and this has not yet been resolved. Several small ponds have been dug without authorization on National Forest land in the northwest part of the parcel. If the property remains in public ownership, the Deschutes National Forest would correctly establish and post the boundary, and take action to have any encroachments resolved.

Continuing development around and near the parcel would be expected to result in an increase in the number of people using the site to recreate, watch wildlife, or value the site as open space. An increase in the number of illegal dump sites or other unauthorized uses would also be expected.

There are three utility corridor rights-of-way located on this parcel. One is for an overhead powerline that crosses South Century Drive near the northeast corner of the parcel, the second is for another overhead powerline along Seevers Road in the northwest corner, and the third is for a buried telephone cable also along Seevers Road. Deschutes County currently has easements for County Road 42 (South Century Drive) and for Seevers Road (along the northwest boundary), both granted in 1987. There would be no changes in the status of these rights-of-way or easements, or their access.

SCENIC RESOURCES

South Century Drive, which goes through the north portion of the parcel, provides access to the Cascade Lakes National Scenic Byway. According to the Deschutes National Forest LRMP, lands along South Century Drive are within the "Slightly Altered Landscape with Medium Level Scenic Integrity (Partial Retention, SV-2)" category. The landscape character goal for this area is to achieve a naturally appearing landscape where management direction, Desired Future Conditions and the social and ecological framework of the management area are met. This allocation is divided into two categories: Immediate Foreground which is 300 feet from South Century Drive on either side; and Foreground, which extends from 300 feet to 1/2 mile from the road on either side. On flat terrain such as is present on this parcel, practice has been to consider the Immediate Foreground as the applicable viewing distance.

The remainder of this parcel is in the M8, General Forest management allocation. The scenic quality standard for this allocation is "Altered Landscape with low Scenic Integrity." This would allow the application of a range of timber harvest activities including large clearcuts. Current practice favors retention of residual trees providing a less abrupt visual change.

Forest stands on this parcel are currently dominated by second growth lodgepole pine. There are few scattered individual second growth ponderosa pine intermixed in the lodgepole clumps and thickets. Openings created by old skid roads, access roads and unauthorized roads and trails separate and bisect clumps and thickets of trees. Regenerating lodgepole pine, grasses, and to a lesser extent, sagebrush, are invading landings, roads and skid trails.

This parcel was included in the 2001 Klak Planning Area environmental assessment. No activities were identified or planned during that effort, so no vegetation management to help achieve the DFC would be conducted if this parcel remains in National Forest ownership.

Under the No Action alternative, there would be no change in the existing management or forest character of the parcel. Under natural processes, stand densities of lodgepole pine would increase resulting in gradual changes in both scenic character and integrity. DFCs for this parcel may not be met unless vegetation management activities are prescribed and implemented.

HERITAGE RESOURCES

There are no National Register eligible historic or archeological sites located on this parcel. Two very small lithic sites were identified during survey work for previous timber harvest activities, and neither were determined to be eligible for the National Historic register. Cursory surveys of selected areas within the parcel were performed to validate assumptions that no other sites were present. No additional cultural resources were located or identified. There would be no effect on any National Register eligible historic or archaeological sites.

SOIL RESOURCES

Soils in this parcel are sedimentary associated with the damming of the Deschutes River by lava flows from Newberry Volcano. This parcel contains four broad soil mapping units, including a small area of wetland soils. Most of the parcel has soils that are well drained. The ground is nearly level, stone free, and with no bedrock within 10 feet of the surface.

Current impacts to soils are primarily displacement and erosion associated with vehicle traffic on existing dirt roads. There would be no change to the soil resources under the No Action alternative, and any impacts to the soil resource from existing uses and activities would continue.

VEGETATION

Forest stands here are dominated by second growth lodgepole pine. There are few scattered individual second growth ponderosa pine intermixed in the lodgepole clumps and thickets. Forest cover in this parcel is fragmented into clumps and thickets of dense lodgepole pine by trails, skid roads, old forest roads, and newer roads and trails created by the public. These are further augmented by openings, such as old landings. The understory of sagebrush, bitterbrush, and native grasses has been supplemented by non-native species. Tree regeneration, where present, is lodgepole. Timber volumes associated with this stand type and species are relatively low, and no timber harvest activity is currently planned.

The parcel is fairly open, but where timber exists the stands are predominately 50-70 year old lodgepole pine with a very small component of similarly aged ponderosa pine. There are some larger diameter lodgepole pine and a range of size and age classes including seedlings. Most timber harvest activities occurred during the 1920's and 1930's, prior to acquisition by the federal government in 1938. In most cases, all ponderosa pine trees were harvested leaving smaller trees and lodgepole which were of little or no value. Timber sales in 1987, 1988, and 1998 harvested trees on nearly 200 acres. Because of the lack of ponderosa pine, harvests targeted overstory lodgepole pine and included thinning of the younger and smaller lodgepole pine.

The primary damage agent is gall rust in the lodgepole pine. Unless vegetation management activities are prescribed and target infected trees, the level of infestation would slowly increase, with gradual reductions in growth rates and subsequent volume losses. The stands here are currently below the age of susceptibility for mountain pine beetle. Existing stand conditions, particularly high stand densities, the dominance of lodgepole pine, and the presence of older larger lodgepole pine, increase the risk of future bark beetle attack. Without vegetation management activities, these stands would become susceptible to

beetle attack within the next several decades, and there would be an increase in the risk of wildfire due to fuel buildups.

A field survey was conducted to identify habitat or the presence of threatened, endangered or sensitive plant species. The site is highly disturbed, and therefore it was determined that habitat did not exist. There would be no impact to any TES species or their habitats in this alternative.

There is a known population of spotted knapweed on Seevers Road at the northwest boundary of the parcel. There is a seedbed of knapweed along South Century Drive as it passes through this parcel, and there are heavy infestations of spotted knapweed in the vicinity of the OWW2 community. This parcel has been rated as a high risk for noxious weeds due to a combination of factors that either currently exist or could exist, including the use of off-road vehicles, the use of heavy equipment, known weeds in or adjacent to the project area, and operations in or adjacent to weed populations. These factors increase the potential for seeds and weeds to be transported to the site. There would be no change in the risk level of this parcel under the No Action alternative. A spray program to control noxious weed infestations along Forest roads or along roads crossing National Forest land has been used for the past several years and would continue.

FIRE AND FUELS

Fire suppression and exclusion have resulted in denser stands and domination of stands by lodgepole pine, which is more susceptible to damage or mortality when burned. The lack of vegetation management activity on most of the parcel has retained the moderate to high risk of wildfire and crown fires by retaining high stand densities and ladder fuels. The lack of timber management activity over the next two decades would result in an increased risk of both wildfire and the occurrence of crown fires.

Under continued federal ownership, there would be no immediate change in fuel loading or the risk of wildfire. The trend of increasing development of adjacent private properties coupled with the expected increase in use could increase the risk of a human-caused wildfire occurring.

Fuel loadings associated with increased mortality due to normal stand development processes, and potentially from insect attack, would be expected to increase the risk of wildfire. Risk to adjacent developments, including houses and other physical improvements would increase. The risk of damage or loss of high value resources, particularly residences, is relatively high given the numbers of residences in close proximity to this parcel, and this risk would remain high.

GEOLOGY AND MINERALS

As there are no known mineral, oil, gas, or geothermal resources associated with this parcel, there would be no effect on those resources under any alternative. These would not contribute to the value or use of the parcel.

EFFECTS OF ALTERNATIVE B, PROPOSED ACTION: VANDEVERT PARCEL

Under this alternative, 240 acres would be conveyed by sale at market value to the OWW2 Sanitary District. Approximately 20 acres would be cleared to construct three lined storage ponds with a surface area of approximately 15 acres. The remaining five acres would include the berms around the ponds, access roads and a maintenance facility. Approximately 90 additional acres would be cleared and used for a center pivot irrigation system and grass hay field. The remainder of the parcel would be left in a forested condition and would serve as buffers. (Refer to Alternative B Map.) Facilities would be set back 300 feet from Vandevert Road. Ponds would be fenced with chain link, and there would be a 3-strand smooth wire fence around the perimeter of the parcel. Predicted effects are described below.

LAND USE

After the parcel transfers into private ownership, it would no longer be under the jurisdiction of the Forest Service or managed in accordance with the Deschutes National Forest's 1990 LRMP. Instead, it would be under the jurisdiction of local agencies, and would need to conform to state and county regulations, conditions, and zoning. Uses would need to comply with all applicable regulatory requirements to ensure the environment is not adversely affected. In particular, DEQ and Deschutes County would have regulatory jurisdiction over the property and the planned facilities.

Once in private ownership, local zoning and taxation would apply. According to information from Deschutes County, the Vandevert parcel would be zoned Forest Use Zone F-1. Farm use, which an irrigated hay crop operation would be, is included in the list of uses permitted outright. Reservoirs and water impoundments, which may include the pond structures, are listed as conditional uses permitted. Siting a sewage treatment plant would require an amendment to the county's comprehensive plan and zone change. However, since the sewage treatment plant would continue to be located on the OWW2 property and only the wastewater storage and disposal will be on the new parcel, it may be considered as a conditional use.

If the property is conveyed to OWW2 before the wastewater facility is constructed, a discretionary land use review would likely be required by the county. The county would evaluate the need and options, and their findings would include whether any other options were available. This process is similar to the Forest Service's NEPA and Townsite Act processes, in that they also have to identify whether private or other public land options exist. The county indicates they cannot review the OWW2 proposal in detail until they receive an application from OWW2. However, OWW2 cannot submit an application until they have a decision from the Forest Service approving the conveyance of a specific parcel of land. OWW2 has been working with the county and has an MOU with Deschutes County which states that the county agrees to "Assist the District in its planning efforts and completion of land use applications to allow the expanded sanitary facility."

If the Forest Service issues a special use permit to OWW2 to authorize construction of the facilities while still in public ownership and later conveys the land, Deschutes County has indicated they would accept the facility without further review because it would be an existing use. This would be similar to what occurred for Sunriver Resort, two miles to the north, when the Forest Service authorized their wastewater facilities to be constructed in 1997 and later conveyed the land to Sunriver Resort in 2000.

WATER RESOURCES

Elimination of the on-site septic systems coupled with the upgrading of the sewage collection and treatment facilities at OWW2 would reduce the amount of contaminants, especially nitrates, entering the regional groundwater. Although the current rate or amount of contamination is not known, it is known that the existing systems are not acceptable. Removal of this source of contamination will improve the groundwater quality in the local vicinity and in the greater southern Deschutes County region. Overall, groundwater quality would be improved and the risk of contaminating any shallow domestic water wells from existing and failing systems at OWW2 would be greatly reduced or eliminated.

All solids would be removed from the sewage and treated on the existing OWW2 property. Only the wastewater would be transported by pipeline to the Vandevert parcel for temporary storage, natural aerobic treatment, chlorination, and irrigation. During irrigation, the vegetation would utilize the nitrates and other nutrients for plant growth. The effluent would act as an enriched water supply and fertilize the growing plants. The water would be applied at or below agronomic rates, which means at or below the rate that the plants can take up the nitrates. The effluent would provide an estimated 50 percent of the nitrogen needs of the plants and application of a commercial fertilizer to meet the needs of the crop would be needed. This is no different than applying the proper amount of fertilizer to a golf course or lawn. No nitrates would be expected to pass below the root zone or into the groundwater.

Treated effluent would be piped approximately 21/2 miles from the OWW2 property to the Vandevert parcel. The plans include installing a pipeline within existing public rights-of-way along roads and across the Little Deschutes River, as easements to cross private land could not be obtained. The pipeline would be encased and constructed to standards that would minimize risk of a break.

The effluent would be treated to the State of Oregon's Level II standards as defined by Oregon Administrative Rules. The state DEQ regulates and restricts the use and application of treated effluent. Level II effluent may be used to irrigate agricultural crops during the growing season, which is approximately May through October. Lined storage ponds would have the capacity to store at least six months of effluent outside of the growing season.

Expansion of the treatment capacity for OWW2 would eliminate the discharge from many failing or problem on-site septic systems by connecting those residences to a new upgraded system. Given the level of treatment and nitrate levels of the effluent, the risks of contamination to domestic water sources, the local aquifer, or the Little Deschutes River would be eliminated. Design of the facility, distance from domestic wells and rivers, depth to the groundwater table, and the fact that the groundwater flows northeast toward National Forest lands all contribute to essentially eliminating any potential risk.

WILDLIFE RESOURCES

This alternative would remove 110 acres of medium quality hiding cover and low quality forage currently utilized by deer and elk for migration. Approximately 90 acres of improved forage would be created with the conversion to an irrigated crop. Loss of cover and human activity at the facility may deter big game animals from using that immediate area when people are present. However, the grass

crop and restricted public access to the property would provide improved forage and an overall decrease in human activity, which would tend to lead to an increase in elk and deer use.

State regulations require posting of signs and fencing to notify or limit public access at the facilities. OWW2 would fence the parcel with a 3-strand smooth wire fence. The height of the top wire would not exceed 40 inches, and the bottom wire would be at least 18 inches above the ground to allow wildlife passage. Most of the fence would be located on the property boundary, but along Vandevert Road it would be set back 100 feet from the road. Signs will indicate that public access is limited and by permission only. A 6-foot chain link fence would be constructed around the storage ponds and maintenance building. The chain link fence would cause minimal disruption to both deer and elk, given the small area involved.

This is not a high priority deer or elk migration corridor as identified by either ODFW or Deschutes County. Some short-term disruption of existing migration routes and displacement of animals would be expected during construction of the facilities. Approximately 130 acres of existing dispersal and hiding habitat for both deer and elk would be retained, and existing patterns of use for both migration and hiding cover would remain. Continued development of adjacent private lands would make this site more critical for migration in the future in addition to providing limited hiding cover. Even though it would not have the natural forest vegetation, the parcel would retain an open space landscape.

This alternative would remove approximately 110 acres of existing foraging habitat potentially used by great gray owls and hawk species. However, conversion to an irrigated hay field area would result in an increase in the rodent population that would provide approximately 90 acres of foraging habitat for red-tailed hawks and great gray owls, improving the foraging quality of the site for these species that prefer more open foraging areas.

Approximately 110 acres of medium quality nesting habitat for great gray owls and Cooper's and sharp-shined hawks and low quality habitat for goshawks would be removed for siting of the ponds, irrigation field, and facilities. Any existing habitat would be retained over the remaining 130 acres. Implementation of Alternative B would not cause a significant reduction of the hawks, great gray owls, or their habitat in this area or across the Deschutes National Forest. There would be no loss of bald eagle nesting sites, as none are present.

The effluent storage ponds would attract blue heron and waterfowl, and pond vegetation and algae would provide a new foraging area for these birds. Waterfowl are prey for eagles, so this would also create a new foraging area for eagles that are using the Deschutes River corridor. Although there are no known osprey nest trees, remaining stands would still provide potential future nest sites.

This alternative would also remove approximately 110 acres of marginal foraging habitat for cavity nesters such as woodpeckers, flickers, sapsuckers and nuthatches and any unknown nest sites from these acres. The storage ponds would provide an added water source and potentially attract neotropical migratory bird species. The remaining 130 acres would continue to maintain habitat for these species.

There would be little or no loss of existing roosting habitat for bats. The water in the storage ponds would attract flying insects and provide new foraging habitat for bat species.

There would be no adverse effect on any of the 11 Region Six sensitive wildlife species.

The irrigated grass field and storage ponds would improve habitat for some species of wildlife, including deer, elk, waterfowl, and other birds. This could provide opportunities for wildlife viewing to people traveling in the area. Additionally, OWW2 would have the option of managing the 130 acres of the remaining forested area to improve habitat for various wildlife species.

EFFECTS ON NEARBY PRIVATE PROPERTIES

This site was proposed in the Townsite Application, in part, because of its distance away from homes and developed private lands. The closest housing development, along Blue Eagle Road, begins approximately 1/4 mile south of the parcel, across Vandevert Road. Proposed areas of no development and setbacks along Vandevert Road would increase the distance from the boundary of the subdivision to the proposed facility to approximately 1/2 mile. The Vandevert Ranch subdivision is about 1/4 mile west of the parcel. There is undeveloped private land adjoining the northwest corner, but no facilities are planned for the 40 acres in that corner of the parcel. The closest developed private land to the northwest is Crosswater Resort, approximately 11/4 miles away. Sunriver Resort begins about 11/2 miles to the north. Oregon Administrative Rules (Chapter 340, Division 55) require a buffer of 70 feet from irrigation spray areas.

Similar facilities have been constructed in La Pine and Sunriver, and another is being constructed in Sisters. In Sunriver, the 18-acre effluent storage pond is within 150 feet of Cottonwood Road and less than 1/4 mile from private residences, although the property adjoins private land and homes. The sewage treatment plant for Sunriver Resort is located within the Sunriver community, adjacent to private homes and a golf course.

There is no evidence or experience to suggest or demonstrate that homes or developments on nearby private properties would be adversely affected or that property values would decline because of this type of facility.

ODORS

Irrigating with treated effluent would not create odors. Properly treated wastewater does not have objectionable odors. As long as the ponds are operated and maintained in a manner which ensures that aerobic bacteria are allowed to thrive, any organic materials would be converted in the ponds and the resulting treated effluent will be clear and odor free. A mechanical aerator would be used to ensure sufficient aeration.

Odors from sewage treatment are generally associated with raw sewage, primary treatment, septic tanks, and the solid matter, none of which would be on the Vandevert parcel. The raw sewage and solid material would be treated and held at facilities on the OWW2 property. Once treated, solid material and

sludge would be disposed of at approved facilities or, because of the high organic content, converted into fertilizer or soil enhancers. No sludge or other solid matter would be disposed of on this parcel. Only the effluent would be stored and applied on the parcel to be conveyed.

When properly managed, effluent ponds use natural aerobic bacteria processes (in the presence of oxygen) to treat the organic particles in the effluent. Odors can develop when anaerobic conditions (without oxygen) are created and the aerobic bacteria are removed or killed. Improper design, poor operating conditions, lack of monitoring, or long-term freezing of ponds and lack of circulation, may create such conditions. OWW2's facilities would operate under the conditions and requirements listed in the operating permit issued by DEQ. Sampling, monitoring, and DEQ oversight would ensure that the facility is properly maintained and operated. A certified technician would operate and monitor conditions of the storage ponds and facilities.

RECREATION, ACCESS, AND PUBLIC USE

State regulations require posting of signs and fencing to notify and limit public access at the facilities. There would be signs indicating that public access, especially vehicle access, is limited and by permission only.

Most of the 2.6 miles of existing roads would be closed and possibly obliterated to discourage trespass. The exception would be the powerline access road, which would be gated to allow access by utility companies. Some vehicle access for maintenance and operations would be needed at the facilities.

The change from public to private ownership and the restrictions on public access would reduce or eliminate illegal firewood cutting, dumping of household garbage, and other unauthorized activities that currently take place. There may be interest from nearby residents and others to watch wildlife on the parcel, especially if birds are attracted to the site.

SCENIC RESOURCES

Buildings and other similar intrusive structures would be kept to a minimum, as only a small maintenance building is planned. The ponds and irrigated hay field would change the forest landscape to a more agricultural setting. The remainder of the property would remain treed and in natural vegetation, and would still provide a sense of open space and rural landscape.

There would be little visual impact from the facilities. Screening (buffers of undeveloped land retained in the forest landscape) is planned between Vandevert Road and the facilities to protect and retain visual qualities and characteristics. No facilities would be located within 300 feet of Vandevert Road. The proposed development would have little or no effect on scenic quality, integrity, or landscape character. LRMP standards and guidelines and the desired future condition would be met, even though it would no longer be under Forest Service management. Local requirements and zoning restrictions for visual management would also be met.

Buffers are also proposed for the east, north and west boundaries. Widths would vary from

approximately 70 feet on the east to approximately 1/4 mile on the west. These locations have limited scenic views and are not readily seen by motorists passing by.

Deschutes County zoning for this parcel would be F-1 Forest Zone which would govern the types and limits of development allowed. Because this parcel is adjacent to a tour route, Deschutes County would require a 100-foot buffer along the road to help maintain the visual character of the area.

HERITAGE RESOURCES

Sale of this parcel would have no effect on any National Register eligible historic or archaeological sites. Sites have been documented, recorded, and permanent records maintained by the Deschutes National Forest.

SOIL RESOURCES

Soils in this parcel are excessively well drained and far above the water table. Although it is widely variable, bedrock lava is within an average of 3 feet of the surface, and could cause excavation to be more difficult, depending on the conditions at a particular location.

Application rates of the treated effluent coupled with the application rates of commercial fertilizer would be at rates at or less than what the grass hay crop can take up. There would be no increase in nitrate levels in the soil beyond the root zone, and no nitrates would reach the groundwater.

Reduction in the amount of dirt roads and restrictions on public access would reduce the soil displacement and erosion associated with vehicle traffic.

VEGETATION

Construction of the storage ponds, maintenance building and hay field would result in the removal of approximately 110 acres of existing timber and forest vegetation and the conversion to an agricultural landscape with grass hay production. There would be no change in the conditions in the remaining 130 acres and stocking levels would continue to increase with an eventual corresponding increase in mortality associated with denser stands. OWW2 would have the option of managing the timber resource to create a healthier forest.

Any timber value from existing trees will be included in the valuation of the parcel. Restriction on public access would reduce the likelihood of illegal firewood cutting on this parcel, but could displace this activity to other public lands.

A preliminary field reconnaissance of the parcel identified habitat for *Castilleja chlorotica*, a sensitive plant species. However, field surveys found no TES species on this parcel, and there would be no direct, indirect or cumulative effects expected to these species.

Although no noxious weeds have been identified on or adjacent to this parcel, it has been rated as a moderate risk for weeds. Construction equipment may move through or park on sites with infestations of

spotted knapweed found along South Century Drive or at OWW2 and transport seeds to other disturbed sites along South Century Drive, Vandevert Road, or onto the parcel. Heavy equipment would be used during construction and to clear the area for the hay field. These activities would disturb and displace soil and create potentially suitable conditions for the establishment of new weed populations. Weed control and maintenance of the landscape in and around the facilities and the hay crop, would eliminate any unwanted vegetation including noxious weeds. The reduction in public access would also limit the transport of new seeds to the parcel.

Requiring construction vehicles and heavy equipment to be washed prior to entering or leaving the project area would reduce or eliminate the potential of spreading weed populations to new areas. Spraying known populations prior to starting construction would also help to reduce or eliminate the risk of spread by reducing the potential for transporting seeds or plant parts to new locations.

FIRE AND FUELS

This alternative would remove timber and shrub vegetation from approximately 110 acres. Ninety acres would be converted into an irrigated grass hay field with a center pivot irrigation system and 15 acres would have effluent storage ponds. Development of the facilities would provide fuel breaks and fuel type changes which would help minimize fire risk and intensity.

Grasses and shrubs in the forest cure quickly and fires tend to quickly spread when ignited. Providing fuel breaks and changes in vegetation, such as an irrigated field, would help to limit the rate of spread and provide opportunities for more rapid control. The effluent ponds would also provide an emergency water source, if a fire occurs nearby.

Limiting public access would reduce the number and type of ignition sources that could result in a wildfire. OWW2 would have the option to manage the remaining forest areas on the property to improve forest health and further reduce fire risk.

MITIGATION MEASURES AND MONITORING

No mitigation measures or monitoring requirements have been identified as being necessary for the Forest Service to require. Any requirements imposed by the Forest Service would likely have to be in the form of deed restriction, and none were determined to be needed. Forest Service policy limits using deed restrictions or encumbrances in land conveyances.

The facility plan and project design proposed by OWW2 incorporates many features to make the project more compatible with the local environment and surrounding landscape. These include setbacks from the road, use of smooth wire fencing, posting of signs, retaining forest landscape where no facilities are planned, and providing buffer areas between adjacent lands.

Monitoring would be accomplished through established DEQ and county processes including permitting, monitoring, and reporting. State and local regulations, zoning, and requirements for operation and maintenance of the facilities would ensure that the project construction and operation

meets or exceeds all standards.

EFFECTS OF ALTERNATIVE C: SECTION 25 PARCEL

Under Alternative C, 520 acres of National Forest land would be conveyed by sale at market value to the OWW2 Sanitary District. Approximately 20 acres of the property would be used for placement of 2 lined storage ponds with a total area of approximately 15 surface acres, access roads, and a maintenance building. Approximately 95 acres would be used for two center pivot irrigation systems and hay fields, one approximately 80 acres and the second approximately 15 acres in size. The facilities would be located on the western portion of the parcel, where there is deeper groundwater and more suitable soil conditions. Facilities would be set back 300 feet from South Century Drive, and approximately 200 feet from Foster Road. Ponds would be fenced with chain link, and the perimeter would have a 3-strand smooth-wire fence. No facilities would be developed in the 40 acres located in the SW1/4 SW1/4 of the section, nor would any development occur in the 7-acre wetland area in the northwest portion. (Refer to Alternative C Map for locations of the facilities.) The natural forest vegetation would be left on approximately 405 acres which are not needed for facilities, and would serve as buffers between the facilities and adjacent lands. Predicted effects of this alternative are described below.

LAND USE

After the parcel transfers into private ownership, it would no longer be under the jurisdiction of the Forest Service or managed in accordance with the Deschutes National Forest's 1990 LRMP. Instead, it would be under the jurisdiction of local agencies, and would need to conform to state and county regulations, conditions, and zoning. Uses would need to comply with all applicable regulatory requirements to ensure the environment is not adversely affected. In particular, DEQ and Deschutes County would have regulatory jurisdiction over the property and the planned facilities.

Once in private ownership, local zoning and taxation would apply. According to information from Deschutes County, 480 acres of the 520 acres in the Section 25 parcel would be zoned Forest Use Zone F-2, which is generally less restrictive than F-1. Farm use, which an irrigated hay crop operation would be, is included in the list of uses permitted outright. Reservoirs and water impoundments, which may include the pond structures, are listed as conditional uses permitted. Approval for a conditional use may be required to site a wastewater reuse facility. The remaining 40 acres, located in the southwest area of the parcel, is zoned Rural Residential RR-10, but no facilities are being planned in this area.

If the property is conveyed to OWW2 before the wastewater facility is constructed, a discretionary land use review would likely be required by the county. The county would evaluate the need and options, and their findings would include whether any other options were available. This process is similar to the Forest Service's NEPA and Townsite Act processes, in that they also have to identify whether private or other public land options exist. The county indicates they cannot review the OWW2 proposal in detail until they receive an application from OWW2. However, OWW2 cannot submit an application until they have a decision from the Forest Service approving the conveyance of a specific parcel of land. OWW2 has been working with the county and has a Memorandum of Understanding with Deschutes County

which states that the county agrees to "Assist the District in its planning efforts and completion of land use applications to allow the expanded sanitary facility."

If the Forest Service issues a special use permit to OWW2 to authorize construction of the facilities while still in National Forest ownership and later conveys the land, Deschutes County has indicated they would accept the facility without further review because it would be an existing use. This would be similar to what occurred for Sunriver Resort, when the Forest Service authorized construction of their wastewater facilities in 1997 and later conveyed the land to Sunriver in 2000.

WATER RESOURCES

Although the distance to groundwater in the Section 25 parcel is less than for the Vandevert parcel, soils investigations show that the parcel would be suitable for the facilities and for irrigation. Preliminary soil studies show that on the west portion of the parcel, the water table is deeper and at least 30 inches below the surface at all times. Facilities would be located in these areas. The eastern portion could also be used for irrigation, as the water table would be low enough during the growing and irrigation system, but no facilities are planned in this area.

Identical to Alternative B, elimination of the in-ground, on-site septic systems coupled with the upgrading of sewage collection and treatment facilities at OWW2 would reduce the amount of contaminants, especially nitrates, entering the regional groundwater. Although the current rate or amount of contamination is not known, it is known that the existing systems are not acceptable. Removing this source of contamination would improve the groundwater quality in the local vicinity and in the greater southern Deschutes County region. Overall, groundwater quality would be improved and the risk of contaminating any shallow domestic water wells from existing and failing systems at OWW2 would be greatly reduced or eliminated.

All solids would be removed from the sewage and treated on the existing OWW2 property. Only the wastewater would be transported by buried pipeline to the Section 25 parcel for temporary storage, natural aerobic treatment, chlorination, and irrigation. During irrigation, the vegetation would utilize the nitrates and other nutrients for plant growth. The effluent would act as an enriched water supply and fertilize the growing plants. The water would be applied at or below agronomic rates, which means at or below the rate that the plants can take up the nitrates. The effluent would provide only about 50 percent of the nitrogen needs of the plants, and application of a commercial fertilizer to meet the needs of the crop would be needed. This is no different than applying the proper amount of fertilizer to a golf course or lawn. Other similar wastewater facilities, such as the nearby La Pine system, demonstrate that additional fertilizer must be added because the effluent does not provide enough nitrates or other nutrients to satisfy all that the vegetation needs. No nitrates would be expected to pass below the root zone and there would be no contamination of the groundwater.

Treated effluent would be transported by pipeline approximately 1/4 mile from the OWW2 property. The pipeline would cross under South Century Drive but would not cross the river. The system and the treated effluent would be in compliance with DEQ regulations.

The effluent would be treated to the State of Oregon's Level II standards, as defined by Oregon Administrative Rules. The state DEQ regulates and restricts the use and application of treated effluent. Level II effluent may be used to irrigate agricultural crops during the growing season. Lined storage ponds would have the capacity to store at least six months of effluent outside of the growing season.

Irrigation at the agronomic rate would result in nitrates and other nutrients in the treated effluent to be taken up by the plants. No contaminants, including nitrates, would reach the groundwater, and there would be no opportunity for either local domestic groundwater sources or rivers to become contaminated from the operation of the facilities.

Expansion of the treatment capacity for OWW2 would eliminate the discharge from many failing or problem on-site septic systems. Given the level of treatment and nitrate levels of the effluent, the risks of contamination to domestic water sources, the water table, or the Deschutes or Little Deschutes rivers would be eliminated due to the facility design and the level of treatment. Even though this parcel is closer to the river and has shallower groundwater than the Vandevert parcel, there is sufficient depth to groundwater and suitable soils to adequately site the facilities on the western portion of the parcel.

The issue of the unauthorized ponds in the small wetland area would be resolved by the Forest Service prior to the sale of this parcel to OWW2. OWW2 would retain the wetland area as a natural area and no development would occur there. The existing wetland values would be maintained or improved after conveyance. Under private ownership, trespass activities such digging holes without permission would be less likely to occur or remain undetected if they did occur.

WILDLIFE RESOURCES

This alternative would remove 115 acres of high quality hiding cover currently used by deer and elk for movement and migration. Approximately 95 acres of high quality forage would be created within these acres with the conversion to an irrigated crop. Loss of cover and human activity at the facility may deter big game animals from using that immediate area when people are present. However, the irrigated grass field and restricted public access would provide improved forage and an overall decrease in human activity which would tend to lead to an increase in elk and deer use.

State regulations require posting of signs and fencing to notify or limit public access at the facilities. OWW2 would fence the parcel with a 3-strand smooth wire fence. The height of the top wire would not exceed 40 inches, and the bottom wire would be at least 18 inches above the ground to allow wildlife passage. Most of the fence would be located on the property boundary, but along Foster Road and South Century Drive it would be set back at least 100 feet from the road. Signs will indicate that public access is limited and by permission only. A 6-foot chain link fence would be constructed around the storage ponds and maintenance building. The chain link fence would cause some displacement of both deer and elk, but this is expected to be minimal given the small area involved.

This parcel is within a high priority deer migration corridor, as identified by ODFW and Deschutes County. Minimal disruption of existing migration routes and displacement of animals would be expected

from the placement and operation of the facilities. Existing patterns of use for migration and hiding cover would remain over 405 acres, as that portion of the site would remain undeveloped. The area that is developed for facilities would continue to provide open space plus improved forage habitat. Continued development of adjacent private lands would make Section 25 more critical for movement and migration of deer and elk in the future. The value and integrity of the property as open space and for migration habitat would be maintained or improved under Alternative C. Once in private ownership, public hunting would not be allowed, which would also make the site more desirable for the animals.

This alternative would retain about 405 acres of low to medium quality foraging habitat potentially used by hawks and great gray owls. Conversion to an irrigated grass crop would increase the rodent population and provide approximately 95 acres of improved foraging habitat for the hawks and owls. Approximately 405 acres of marginal potential nesting habitat for these species would also be retained. There would be no loss of current or potential nesting habitat for goshawks or osprey. Implementation of Alternative C would not cause a reduction of hawks, great gray owls, goshawks, or their habitat in the immediate area or across the Deschutes National Forest.

Since there are no suitable trees on this parcel that could be used by bald eagles for nest sites, this alternative would not affect bald eagle nesting.

The effluent storage ponds would attract blue herons and waterfowl, and the pond vegetation and algae would provide a new foraging area for these birds. Waterfowl are prey for eagles, so this would also create a new foraging area for eagles that are using the Deschutes River corridor.

This alternative would remove approximately 115 acres of potential foraging habitat for cavity nesters such as woodpeckers, flickers, sapsuckers and nuthatches and as a result would eliminate any existing or future nesting habitat from those acres, but would not cause an overall reduction in local populations or habitats of those species. The storage ponds would provide an added water source that would attract neotropical migratory bird species, and the remaining 405 acres would continue to maintain habitat for these birds.

There would be no loss of roosting habitat for bats. The water in the storage ponds would attract flying insects and provide new foraging habitat for bat species.

There would be no adverse effect on any of the 11 Region Six sensitive wildlife species.

The irrigated grass field and storage ponds would improve habitat for wildlife, including deer, elk, waterfowl, and birds. This could provide opportunities for wildlife viewing to neighboring residents and people traveling through the parcel or in the area. Additionally, OWW2 would have the option to manage the remaining 405 acres for forest resources, including wildlife habitat. Habitat for a variety of wildlife species could improve with proper management and vegetation treatments.

EFFECTS ON NEARBY PRIVATE PROPERTIES

Private lands surround the parcel on all sides except a quarter mile portion along the southwest corner of the parcel. The existing forest landscape would remain over much of the eastern portion of the property. Setbacks and buffers along the boundaries would result in facilities being 200 to 300 feet from any private property. Oregon Administrative Rules (Chapter 340, Division 55) require a buffer of 70 feet from irrigation spray areas. OWW2's plans include a 300-foot setback from the edge of the irrigated field to the property boundary.

Similar facilities have been constructed in La Pine and Sunriver, and another is being constructed in Sisters. In Sunriver, the 18-acre effluent storage pond is within 150 feet of Cottonwood Road and less than 1/4 mile from private residences, although the property boundary adjoins the private land and homes. The sewage treatment plant for Sunriver Resort is located within the Sunriver community, adjacent to private homes and a golf course.

There is no evidence or experience to suggest or demonstrate that homes or developments on nearby private properties would be adversely affected or that property values would decline because of this type of facility.

ODORS

Irrigating with treated effluent would not create odors. Properly treated wastewater does not have objectionable odors. As long as the ponds are operated and maintained in a manner which ensures that aerobic bacteria are allowed to thrive, any organic materials would be converted in the ponds and the resulting treated effluent would be clear and odor free. Mechanical aerators would be installed to ensure sufficient aeration.

Odors from sewage treatment are generally associated with raw sewage, primary treatment, septic tanks, and the solid matter, none of which would be on the Section 25 parcel. The raw sewage and solid material would be treated and held at facilities on the OWW2 property. Once treated, solid material and sludge would be disposed of at approved facilities or, because of the high organic content, converted into fertilizer or soil enhancers. No sludge or other solid matter would be disposed of on this parcel. Only the effluent would be stored and applied on the parcel to be conveyed.

When properly managed, effluent ponds use natural aerobic bacteria processes (in the presence of oxygen) to treat the organic particles in the effluent. Odors can develop when anaerobic conditions (without oxygen) are created and the aerobic bacteria are removed or killed. Improper design, poor operating conditions, lack of monitoring, or long-term freezing of ponds and lack of circulation, may create such conditions. OWW2's facilities would operate under the conditions and requirements listed in the operating permit issued by the DEQ. Sampling, monitoring, and DEQ oversight would ensure that the facility is properly maintained and operated. A certified technician would operate and monitor conditions of the storage ponds and facilities.

RECREATION, ACCESS, AND PUBLIC USE

State regulations require posting of signs and fencing to notify or limit public access at the facilities.

There would be signs indicating that public access, especially vehicle access, is limited and by permission only.

Most of the 4 miles of existing dirt roads (not including Foster Road) would be closed and possibly obliterated to discourage trespass. Foster Road, which is used to access other National Forest and private lands, would be retained in public ownership, either by an easement to the Forest Service or by transferring it to Deschutes County. Use of Foster Road is not expected to change as a result of this alternative. Some vehicle access for maintenance and operations of the facilities would be needed.

The change from public to private ownership and the restrictions on public access would reduce or eliminate illegal firewood cutting, dumping of household garbage, and other unauthorized activities that currently take place. There may be interest from adjacent and nearby residents and others traveling through the parcel on Foster Road to watch wildlife on the parcel, especially if birds are attracted to the site. Adjacent and nearby landowners would be likely to value the parcel for open space.

SCENIC RESOURCES

Buildings and other similar intrusive structures would be kept to a minimum, as only a small maintenance building is planned. The ponds and irrigated hay field would change the forest landscape to a more agricultural setting. The remainder of the property would remain forested and in natural vegetation, and would still provide a sense of open space and rural landscape.

There would be little visual impact from the facilities. South Century Drive provides access from Highway 97 to the Cascade Lakes National Scenic Byway, and county and state regulations require buffers of at least 100 feet to protect the scenic quality along the road. This requirement would be met or exceeded in the design of the facilities. Foster Road is neither a scenic corridor or roadway, and county zoning regulations would not require any buffers to protect visual quality along this road. The proposed development would have little or no effect on scenic quality, integrity, or landscape character. LRMP standards and guidelines and the desired future condition would be met, even though it would no longer be under Forest Service management. Local county requirements and zoning restrictions for visual management would be met.

Deschutes County zoning for the area where the facilities would be located would be F-2 Forest Zone. This would govern the types and limits of development allowed.

HERITAGE RESOURCES

There are no eligible historic or archaeological sites on this parcel. Sale of this parcel would have no effects on any National Register eligible historic or archaeological sites. Ineligible sites have been documented and permanent records maintained by the Deschutes National Forest.

SOIL RESOURCES

The lack of rock in the soil would be favorable for excavation and construction of the facilities. The water table in the eastern portion of the parcel is high in some areas, although it does drop low enough

by the growing season so that the area could be used for irrigation. The west side of the parcel is well suited for the facilities and irrigation, as the groundwater levels stay below 30 inches year-round.

Application rates of the treated effluent coupled with the application rates of commercial fertilizer would be at rates at or less than what the grass hay crop can take up. There would be no increase in nitrate levels in the soil beyond the root zone, and no nitrates would reach the groundwater.

Reduction in the amount of dirt roads and restrictions on public access would reduce the displacement and erosion associated with vehicle traffic.

VEGETATION

Construction of the storage ponds, maintenance building and hay field would result in the removal of approximately 115 acres of existing timber and forest vegetation and converting it to an agricultural landscape with grass hay production. There would be no change in the conditions of the remaining 405 acres and stocking levels would continue to increase and the mortality would tend to increase in denser stands. OWW2 would have the option of managing the timber resource to create a healthier forest.

Any timber value from existing trees will be included in the valuation of the parcel. Restrictions on public access would reduce the likelihood of illegal firewood cutting on this parcel, but could displace this activity to other public lands.

A field survey determined that because the site was already highly disturbed, there was no habitat for TES species. There would be no direct, indirect or cumulative effects expected on TES species.

Because noxious weeds have been identified near or adjacent to this parcel, it has been rated as a high risk for weeds. Construction equipment may move through or park on sites with infestations of spotted knapweed found along South Century Drive or at OWW2 and transport this species to other disturbed sites along South Century Drive or onto the parcel itself. These activities would disturb and displace soil and create potentially suitable conditions for the establishment of new weed populations. Scheduled spraying of the roadsides would continue and help minimize any new potential risks. Landscape maintenance in and around the facilities and weed control during production of the hay crop would eliminate unwanted vegetation including noxious weeds. The reduction in public access would also limit the transport of new seeds to the parcel.

Requiring construction vehicles and heavy equipment to be washed prior to entering or leaving the project area would reduce or eliminate the potential of spreading weed populations to new areas. Spraying known populations prior to starting construction would also help to reduce or eliminate the risk of spread by reducing the potential for transporting seeds or plant parts to new locations.

FIRE AND FUELS

This alternative would remove timber and shrub vegetation from approximately 115 acres. Ninety-five acres would be converted into an irrigated grass hay field with a center pivot irrigation system, and 15

acres would have effluent storage ponds. Development of the facilities would provide fuel breaks and fuel type changes which would help minimize fire risk and intensity.

Grasses and shrubs in the forest cure quickly and fires tend to quickly spread when ignited. Providing fuel breaks and changes in vegetation, such as an irrigated field, would help limit the rate of spread and provide opportunities for more rapid control. The effluent ponds would also provide an emergency water source, if a fire occurs nearby.

Limiting public access would reduce the number and type of ignition sources that could result in a wildfire. The District would have the option to manage the remaining forest areas on the property to improve forest health and further reduce fire risk.

MITIGATION MEASURES AND MONITORING

No mitigation measures or monitoring requirements have been identified as being necessary for the Forest Service to require. Any requirements imposed by the Forest Service would likely be in the form of deed restriction, and none were determined to be needed. Forest Service policy limits using deed restrictions or encumbrances in land conveyances.

The facility plan and project design proposed by OWW2 incorporates many features to make the project more compatible with the local environment and surrounding landscape. These include setbacks from the road, use of smooth wire fencing, posting of signs, retaining forest landscape where no facilities are planned, and providing buffer areas between adjacent lands.

Monitoring would be accomplished through established DEQ and county processes including permitting, monitoring, and reporting. State and local regulations, zoning, and requirements for operation and maintenance of the facilities would ensure that the project construction and operation meets or exceeds all standards.

OTHER EFFECTS NOT PREVIOUSLY MENTIONED

REASONABLY FORESEEABLE FUTURE ACTIONS

Under either Alternative B or Alternative C, it is expected that the property conveyed to OWW2 would be developed as proposed for wastewater facilities to meet the needs of the OWW2 community. No other developments or uses are planned by the OWW2 Sanitary District, and it is expected to remain under OWW2 ownership and management into the future. Once in private ownership OWW2 may need to modify their proposed plans, but there is no indication that there would be any significant deviations due to their demonstrated need for the property for this use and their limitations as a sanitary district. The predicted effects would be expected to be the same, even with minor adjustments or modifications.

Either parcel not sold to OWW2 would be evaluated in the near future for sale or exchange as part of

Tract C of the Bend Pine Nursery Land Conveyance Act. The BPNLCA gives the Forest Service authority to sell a number of identified isolated parcels and retain the funds for acquisition of new administrative offices and facilities for the Deschutes National Forest. After a decision is made on the OWW2 Townsite Application, the remaining portions of Tract C will be evaluated for disposal in a new environmental analysis. Evaluation of Tract C is outside the scope of this OWW2 Townsite Act application analysis. Although it cannot be predicted to whom the property would be sold or exchanged to under the BPNLCA, it is likely that a buyer or buyers would acquire either property with the intent of using the land for housing or a resort development or another income producing project.

CIVIL RIGHTS AND ENVIRONMENTAL JUSTICE

There would be no known direct, indirect, or cumulative effects on Native Americans, minority groups, women, or civil rights as a result of a land exchange. Scoping letters were sent to the Confederated Tribes of the Warm Springs Reservation, the Burns Paiute Tribe, and the Klamath Tribes, the three federally recognized tribes in Central Oregon, to provide information about the OWW2 proposal and to request any input regarding tribal interests, concerns, or issues. Additional follow up contacts were made through the Forest's tribal liaison. No responses were received, nor were any tribal issues, concerns, or current uses identified that would be affected by the alternatives.

Executive Order 12898 directs each federal agency to make achieving Environmental Justice part of its mission by addressing effects of its programs, policies, and activities on minority populations and low-income populations. A presidential memorandum emphasizes the need to consider and disclose these types of effects during an environmental analysis. The memorandum clarifies that the order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment.

The purpose of Alternative B or C is to provide for proper waste disposal facilities for OWW2 residents and to ensure that the existing facilities do not further contaminate the groundwater. Either of these alternatives would help promote and provide for the health and safety of the residents of OWW2 and of the residents and resources in the larger Deschutes Basin area of southern Deschutes County. In 1997, the USDA Rural Utilities Service identified the Oregon Water Wonderland Unit II community as being a low-income community, with a median household income of $21,163. Alternative B or C would help the community and benefit this low-income population by conveying federal land to allow new wastewater facilities to be constructed. This would also allow the other needed sewage treatment facilities to be constructed on OWW2 lands, to be used in conjunction with the newly acquired land. Alternative B or C would allow proposed developments to be constructed and operated within the budget approved by the residents, and at a rate that they can afford.

Alternative A, the No Action alternative, would disproportionately and adversely affect this low-income community by denying a viable and affordable solution to their sanitation and environmental needs. Property values could decline due to the lack of acceptable sewage disposal facilities.

WILD AND SCENIC RIVERS

The Vandevert parcel is approximately one mile from the Upper Deschutes Wild and Scenic River corridor, and the Section 25 parcel is just outside the boundary. However, the OWW2 community itself is located within the designated boundaries of the corridor. Alternative B or C would have a beneficial and desirable effect of improving groundwater quality within the corridor by eliminating the problem sewage systems that currently provide contaminates. Selection of the No Action alternative (Alternative A) would adversely affect the groundwater quality within the wild and scenic corridor because the existing conditions and contamination would remain and continue to worsen over time.

TOXIC SUBSTANCES

Chlorine is used in the final treatment of the effluent before it is used for irrigation. OWW2 would use chlorine in a tablet form or in a liquid form, in containers similar to those for household bleach. A hazardous materials plan would be prepared and adopted prior to the operation of the facility, and coordinated with local authorities.

PRIME LANDS

A land conveyance would have no effect on prime farmlands, forestlands, or rangelands.

SECTION V. LIST OF PREPARERS AND CONSULTATION WITH OTHERS

1) INTERDISCIPLINARY TEAM

The following Forest Service employees were involved in the environmental analysis and preparation of the Environmental Assessment:

Alice Doremus - Project Leader, Lands
John Davis - Writer/Editor, Timber Resources, Fuels
Larry Chitwood - Geology, Minerals, Groundwater
Monty Gregg - Wildlife
Ronnie Yimsut - Scenic Resources
Charmane Levack - Botany
Marc Wilcox - Hydrology and Wetlands
Dana Butler - Hydrology and Wetlands
Walt Miller - Easements and Landline
Dale Putman - Roads and Hazardous Materials
Linda Carlson - Special Uses
Paul Claeyssens - Heritage Resources
Lucy Hamilton - Heritage Resources

2) CONSULTATION WITH OTHERS

Individuals who were contacted, involved, or provided information for this EA include the following:

Jim Sollenberger, Erv Remmele, George Oldham - OWW2 Sanitary District
William Tye, P.E. - Consulting Engineer, Tye Engineering & Surveying Inc.
Steve Wert - Consulting Soil Scientist and Wastewater Sanitarian, Wert & Associates
Dick Nichols, Walt West, Jayne West - Oregon Department of Environmental Quality
Dave Leslie, George Read - Deschutes County
MerrieSue Carlson - Office of the Governor
Steve George - Oregon Department of Fish and Wildlife
Kyle Gorman, Bob Main - Oregon Water Resources Department
Jim Coburn - BLM/Forest Service Tribal Liaison

Deschutes and Ochoco National Forests Website
http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/wonderland/oww2ea.html
Last Update: 11/7/01
R.A. Jensen