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C.1 Overview and Historical Funding Picture

A comprehensive conservation plan (CCP) provides long-term guidance for management decisions, sets forth goals, objectives, and strategies needed to accomplish refuge purposes, and identifies the U.S. Fish and Wildlife Service's (Service's; USFWS's) best estimate of future needs. Often, a CCP provides detailed program planning levels that are substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. A CCP does not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.

Implementation of the preferred alternative of the CCP requires increased funding, which would be sought through an increase in base funding (Congressional allocations), partnerships (both private and public), and grants. Activities and projects identified would be implemented as funds become available.

C.1.1 Operating Funds History

Operational management of refuge lands is accomplished by permanent and temporary staffing, volunteers, and partnerships. Operational management includes managing public use, law enforcement, cultural resources, biology, fire, maintenance, administration, and habitat/wildlife restoration/maintenance management programs.

In fiscal year 2011, the majority of the station's operating funds came from Congressional allocated base funding. This funds salaries and benefits for six permanent full-time employees, annual maintenance, and overhead expenses associated with maintaining public use and administrative facilities.

Other funding sources include the Bonneville Power Administration's (BPA's) Fish and Wildlife Program, Migratory Birds Program, and Refuge Roads Program, and American Recovery and Reinvestment Act (ARRA) youth programs. Without these additional funds, the majority of work in the habitat restoration and environmental education program that is accomplished each year would not happen.

C.1.2 Revenue Sharing

In lieu of property taxes, the Tualatin River National Wildlife Refuge (the refuge) annually provides revenue-sharing payments to Yamhill and Washington Counties. The U.S. Congress each year determines what percent of funds will be appropriated for all appraised Federal lands. Counties are not restricted in the use of these funds. If the refuge expands through the purchase of inholdings (privately owned lands within the current approved boundary) or through an expanded refuge boundary, additional payments in lieu of tax would be made to the counties.

C.2 Step-Down Plans

The Comprehensive Conservation Plan is one of several plans necessary for refuge management. The CCP provides guidance in the form of goals, objectives, and strategies for several refuge program areas but may lack some of the specifics needed for implementation. Step-down management plans will be developed for individual program areas within approximately 5 years after CCP completion. All step-down plans require appropriate NEPA compliance; implementation may require additional permits. Step-down plans for the refuge follow. Project-specific plans, with appropriate NEPA compliance, may be prepared outside of these step-down plans.

Table C-1. Refuge Step-Down Plans

Step-Down Management Plans	Status (Date Completed and/or Date to be Prepared/Updated)
Wapato Lake Unit Habitat Management Plan	Contingent on acquisition and results of planning study
Cultural Resources Museum Management Plan	2015
Visitor Services Plan update	2017
Hunt Plan – youth waterfowl	2015
Hunt Plan – adult waterfowl	Contingent on Wapato Lake Unit restoration
Fishing Plan	2016
Integrated Pest Management Plan	2012 (prepared concurrently with CCP, Appendix G)
Wildland Fire Management Plan	2012 (prepared concurrently with CCP, Appendix O)
Elk Management Plan	Will be prepared concurrently with Willamette Valley NWR Complex
Disease Contingency Plan	2015
Facilities Management Plan	2017
Inventorying and Monitoring Plan	2015

C.3 Future Needs

C.3.1 Future Sources of Funds

Projects listed below were drawn from the goals, objectives, and strategies and could be implemented during the next 15 years. Many of these projects would be included in either the Refuge Operational Needs System (RONS) or the Refuge Management Information System (RMIS). Both are used to request funding from Congress.

Currently, a large backlog of maintenance needs exists on the refuge. In 2010, the deferred maintenance backlog for the Tualatin River National Wildlife Refuge was \$1,450,347. Reduction of the backlog is an ongoing goal and is included here in the analysis of funding needs. The RONS documents proposed new projects to implement the CCP to meet refuge goals and objectives and legal mandates.

Several infrastructure and facility projects would be eligible for funding through construction, deferred maintenance, or Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) funds (i.e., Refuge Roads program).

Funds for other “one-time costs” (see below) would be sought through increases in refuge base funding, special project funds, grants, Refuge Roads, or Federal Highway Administration funding.

C.3.2 Spending Priorities

Priorities are designated in Table C-1 for one-time and ongoing (recurring) projects (strategies) identified in the CCP. Priorities are designated as High (H), Medium (M), or Low (L). The rankings were determined according to the following criteria:

- A “high”-ranked project/strategy is ongoing, needed immediately, or should be considered in the near future to successfully manage habitat and public use on refuges. It should directly support the “refuge purpose” or a “big six” public use activity, and/or restore a “threatened or endangered” species or rare/unique habitat (oak savanna, wet prairie, etc.).
- A “medium”-ranked project/strategy is of a lesser degree of urgency, but also directly supports the “refuge purpose” or a “big six” public use activity, and/or maintains and restores a “threatened or endangered” species or rare/unique habitat (oak savanna, wet prairie, etc.).
- A “low”-ranked project/strategy maintains restored habitat or species and/or addresses a “big six” public use activity that is not as widely sought out by the public as other “big six” public use activities.

C.3.3 Operational Costs to Implement CCP by Alternative

The following sections detail both one-time and recurring costs for various projects by alternative. Recurring costs reflect the future operational and maintenance costs associated with the project.

One-time Costs: One-time costs are project costs that have a startup cost associated with them, such as purchasing a new vehicle for wildlife and habitat monitoring or designing and installing an interpretive sign. Some are full project costs for those projects that can be completed in 3 years or less. These projects do not include permanent operational costs (staff salary and support). They can, however, include the cost of temporary or term salary associated with a short-term project. Salary for new positions and operational costs are reflected in operational or “recurring” costs. Table C-1 compares both one-time and recurring costs across the three alternatives.

Operational and Maintenance (Recurring) Costs: Operational and maintenance costs reflect refuge spending of base funds allocated each year. These are also known as recurring costs and are usually associated with day-to-day operations and projects that last longer than 3 years. Operational costs use base funding in Service codes 1261, 1262, 1263, and 1264.

Maintenance includes preventive maintenance; cyclic maintenance; repairs; replacement of parts, components, or items of equipment; adjustments, lubrication, and cleaning (nonjanitorial) of equipment; painting; resurfacing; rehabilitation; special safety inspections; and other actions to ensure continuing service and to prevent breakdown. Maintenance also includes maintaining public use, administrative, historical, and shop buildings and facilities. Due to normal use and weather conditions, buildings and facilities need annual maintenance and repairs. Maintenance of habitat

throughout the refuge as a result of the threat of invasive plants and animals and succession, and protection of threatened and endangered species is an annual occurrence.

Operational costs includes all costs associated with the operation of all programs including supplies and materials need to support these programs, such as field supplies, brochures, media, and other interpretative materials, volunteer supplies, herbicide, fuel, overhead costs (electricity, phone, natural gas, office supplies, alarm systems for security and fire monitoring), training for staff and volunteers, and safety materials. These costs do reflect salaries for temporary positions, but do not include permanent staff salary.

Table C-1 displays estimated operating and maintenance costs by alternative for the major project items identified in the CCP. Alternative 1 is based on an estimate of costs for implementing the CCP under current management. Alternatives 2 and 3 reflect increased funding needs for proposed increases in public uses and facilities, increased habitat restoration and conservation activities, and other strategies proposed in Chapter 2.

Table C-2. Estimated Operating and Maintenance Costs by Alternative for the Major Project Items Identified in the CCP

Goal/Objective	Strategy	One-time Cost	Recurring Cost (annual)	Priority	Cost/Unit	Units/Total Cost	Alternative 1	Alternative 2	Alternative 3
1/1.1	Maintenance of riparian forest (integrated pest management [IPM], monitoring)		X	M	\$100	Acres	349	322	338
						Cost	\$34,900	\$32,200	\$33,800
1/1.2	Restore riparian forest (pretreatment, planting, seeding, mechanical methods)	X		H	*\$6,400	Acres	39	140	368
						Cost	\$249,600	\$896,000	\$2.4 million
2/2.1	Maintenance of mixed forest (IPM, prescribed fire, monitoring, snag creation)		X	L	\$250	Acres	49	46	49
						Cost	\$12,250	\$11,500	\$12,250
2/2.2	Restore mixed forest (pretreatment, planting, seeding, mechanical methods)	X		L	*\$3,000	Acres	0	153	203
						Cost	\$0	\$459,000	\$609,000
3/3.1	Maintain oak savanna (prescribed fire, IPM, mowing, tree thinning, monitoring)		X	H	\$250	Acres	149	115	109
						Cost	\$37,250	\$28,750	\$27,250
3/3.2	Restore oak savanna (pretreatment, plantings, seeding, prescribed fire)	X		H	*\$910	Acres	0	111	32
						Cost	\$0	\$101,010	\$29,120
4/4.1	Maintain wet prairie (planting, IPM, prescribed fire, mowing/haying, monitoring)		X	M	\$200	Acres	27	15	15
						Cost	\$5,400	\$3,000	\$3,000

Table C-2. Estimated Operating and Maintenance Costs by Alternative for the Major Project Items Identified in the CCP

Goal/Objective	Strategy	One-time Cost	Recurring Cost (annual)	Priority	Cost/Unit	Units/Total Cost	Alternative 1	Alternative 2	Alternative 3
4/4.2	Restore wet prairie (pretreatment, planting, seeding, monitoring)	X		H	\$1,000	Acres	0	114	30
						Cost	\$0	\$114,000	\$3,000
5/5.1	Maintain herbaceous wetlands (irrigation, water manipulation, mowing/discing, IPM, contouring of wetlands, pest management, prescribed fire)		X	M	\$250	Acres	294	187	64
						Cost	\$73,500	\$46,750	\$16,000
5/5.2	Enhance scrub-shrub wetlands (IPM, mowing/discing, pest management, planting, seeding)	X		H	\$2,000	Acres	0	Approx. 700 acres max.	Approx. 700 acres max.
						Cost	\$0	\$1.4 million	\$1.4 million
5/5.3	Maintain scrub-shrub wetlands (IPM, prescribed fire, logs/trees for basking and resting structures, monitoring)		X	M	\$150	Acres	20	20	20
						Cost	\$3,000	\$3,000	\$3,000
5/5.3	Restore scrub-shrub wetlands (pretreatment, creating swales, plantings, fish passageways)	X		H	**\$2,350	Acres	0	180	176
						Cost	\$0	\$80,252 average	\$80,252 average
6/6.1	Maintain streams and sloughs (install fish passageways, remove fish		X	L	\$1,000	Miles	7.2	7.2	7.2
						Cost	\$7,200	\$7,200	\$7,200

Table C-2. Estimated Operating and Maintenance Costs by Alternative for the Major Project Items Identified in the CCP

Goal/Objective	Strategy	One-time Cost	Recurring Cost (annual)	Priority	Cost/Unit	Units/Total Cost	Alternative 1	Alternative 2	Alternative 3
	barriers, plantings, erosion control, IPM, best management practices [BMPs])								
6/6.2 and 6.3	Restore streams and sloughs (topographical surveys, heavy equipment work, removal of barriers, plantings, erosion control)	X		H	\$10,000	Miles	0	4.3	4.3
						Cost	\$0	\$43,000	\$43,000
7/7.1	Cooperative farming (administration)		X	L		Acres	909	0	0
						Cost	\$2,000	\$0	\$0
8/8.1	Inventorying and monitoring surveys (develop and continue surveys for refuge)		X	H		Cost	\$100,000	\$200,000	\$200,000
8/8.2	Conduct research (studies and investigations toward water quality, soils, IPM techniques, fishery resources, climate change)	X		L		Cost	\$300,00	\$200,000	\$200,000
9/9.1	Inventory, evaluate, monitor, and protect cultural resources		X	L		Cost	\$2,500	\$35,000	\$35,000
9/9.2	Cultural resources interpretation (tribal partnerships,	X		M		Cost	\$0	\$10,000	\$10,000

Table C-2. Estimated Operating and Maintenance Costs by Alternative for the Major Project Items Identified in the CCP

Goal/Obj ective	Strategy	One- time Cost	Recurring Cost (annual)	Priority	Cost/Unit	Units/Total Cost	Alternative 1	Alternative 2	Alternative 3
	interpretative media and exhibits)								
10/10.1	Provide interpretive information to visitors (media, brochures, signs)	X		H		Cost	\$0	\$120,000	\$120,000
10/10.2	Outreach and special events		X	M		#Events	4	4	4
						Cost	\$6,500	\$6,500	\$6,500
10/10.3	Evaluation of visitor services	X		M		Cost	\$0	\$25,000	\$25,000
10/10.4	Public access (partnership on trails, safe highway access)		X	L		Cost	\$0	\$2,500	\$2,500
10/10.5	Volunteer program (develop/provide manuals, bunkhouse, and recreational vehicle [RV pads)	X		M		Cost	\$0	\$50,000	\$50,000
11—all	Environmental education (develop curricula, materials, and install nature explore area)	X		H		Cost	\$0	\$75,000	\$0
	Environmental education (programs/workshops and materials)		X	H		Cost	\$40,000	\$158,000	\$158,000
12/12.1 and 12.2	Wildlife observation, photography, and	X		M		Cost	\$0	\$327,000	\$327,000

Table C-2. Estimated Operating and Maintenance Costs by Alternative for the Major Project Items Identified in the CCP

Goal/Objective	Strategy	One-time Cost	Recurring Cost (annual)	Priority	Cost/Unit	Units/Total Cost	Alternative 1	Alternative 2	Alternative 3
	interpretation (kiosks, signs, photo blinds, bunkhouse for volunteers)								
	Wildlife observation, photography, and interpretation (new positions, facilities maintenance)		X	H		Cost	\$30,000	\$258,000	\$258,000
12/12.3 and 12.5	Waterfowl hunting—complete hunting package	X		M		Cost	\$0	\$90,000	\$0
	Waterfowl hunting—manage program		X	M		Cost	\$0	\$50,000	\$0
12/12.4	Fishing—complete fishing package	X		L		Cost	\$0	\$5,000	\$0
	Fishing—manage fishing program		X	L		Cost	\$0	\$15,000	\$0
All	Develop step-down plans	X		M	\$15,000	# Plans	0	5	5
						Cost	\$0	\$75,000	\$75,000

*Cost was estimated from previous restoration contracts that included labor, plants (trees and grass), protective tree coverings, and other supplies.

**Since the acreage is undetermined for restoration at the Wapato Lake Unit due to a pending hydrological study, cost was estimated based on mean acreage.

C.3.4 Staffing Needs To Implement CCP by Alternative

Personnel are needed to manage and enhance the quality and diversity of indigenous wildlife habitats on the Tualatin River National Wildlife Refuge. With the proper staffing to implement this plan, habitat management practices can be implemented and monitoring of flora and fauna responses to management can be applied, which would allow us to apply adaptive management strategies so crucial for long-term success in meeting the mission, goals, and objectives of the refuge. Staff would interact with the public for education purposes and to provide for public safety. Maintenance staff would maintain facilities and equipment. Training of staff and coordination among staff, volunteers, and refuge partners would ensure that the mission and guiding principles of the National Wildlife Refuge System endure.

Table C-2 shows costs for permanent and seasonal staff needed each year. It does not include staff costs associated with special projects; these are summarized in Table C-1. Table C-2 is related to the Refuge Annual Performance Plan. The section of the table titled “Present Core Staff” shows permanent full-time staff and temporary staff funded with base budgets and other Federal funding. It is important to note that partnerships with other organizations are crucial to achieving baseline objectives as described under Alternative 1. Alternative 2 and 3 staffing positions demonstrate additional staff needed to succeed with the proposed goals for those alternatives.

The proposed full development-level staffing plan would achieve optimum refuge outputs within this planning period (15 years). The rate at which this station achieves its full potential to fulfill the objectives and strategies contained in the CCP is dependent upon receiving adequate funding and staffing.

Table C-3. Staffing Needs by Alternative for Major Project Items in CCP

Staff-Refuge Operations	Status*	Position*	Justifying Objective	Alternative 1	Alternative 2	Alternative 3
Present core staff						
Project Leader	PFT	GS-0485-13	Current	X	X	X
Deputy Project Leader	PFT	GS-0485-12	Current	X	X	X
Wildlife Biologist	PFT	GS-0486-11	Current	X	X	X
Visitor Services Manager	PFT	GS-0025-11	Current	X	X	X
Maintenance Worker	PFT	WG-4749-8	Current	X	X	X
Administrative Officer	PFT	GS-0399-5 SCEP	Current	X	X	X
Biological Technician	TEMP	GS-0401-5	Current	X	X	X

Table C-3. Staffing Needs by Alternative for Major Project Items in CCP

Staff-Refuge Operations	Status*	Position*	Justifying Objective	Alternative 1	Alternative 2	Alternative 3
Alternative 2 and 3 staffing positions						
Biological Technician	PFT	GS-0401-6/7	1.1		X	X
Refuge Operations Specialist	PFT	GS-0485-7/9/11	5.3		X	X
Park Ranger (law enforcement)	PFT	GS-0025-9	10.1		X	X
Volunteer Coordinator	PFT	GS-0025-6/7	10.5		X	X
Environmental Education Specialist	PFT	GS-0025-7/9	11.1		X	X
Engineering Equipment Operator	PFT	WG-5716-8	1.2		X	X

*Status and Position definitions:

PFT: Permanent full time

TEMP: Temporary position

GS: General schedule Federal employees

WG: Wage grade scale

Volunteer Program: The Tualatin River National Wildlife Refuge has a very active volunteer program that supports all programs of the refuge. During fiscal year 2011, more than 225 volunteers donated over 14,640 hours of their time to accomplishing the goals of refuge programs, including maintenance, public use, biological support, environmental education, habitat restoration and management, and administrative duties (Table C-3). The refuge provides transportation, training, supplies, equipment, and housing as needed in support of the volunteer program. The number of hours donated in 2010 was equivalent to \$21.79 per hour as estimated by the Independent Sector (2011). The value of time donated equated to \$327,000, or seven full-time employees.

Table C-3. Volunteer Contributions over a 5-year Time Frame (2007-2011)

Year	2007	2008	2009	2010	2011
Volunteers	340	558	477	205	226
Hours	6,629	13,178	14,309	15,065	14,641