

Tualatin River National Wildlife Refuge Sherwood Public Scoping Meeting for the Comprehensive Conservation Plan

Prepared for

U.S. Fish and Wildlife Service

Prepared by

SWCA[®]

ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions[®]

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INTRODUCTION AND PURPOSE

The Tualatin River National Wildlife Refuge (TRNWR) hosted an evening public scoping meeting at the Wildlife Center near Sherwood, Oregon, on November 30, 2010. The purpose of the public scoping meeting was to invite interested and affected members of the public to review the issues identified through internal scoping, to provide input on these issues, and to identify other issues that should be considered in development of the refuge's comprehensive conservation plan (CCP).

This document records the issues, opportunities, and concerns identified by the members of the public in attendance, which will aid in developing and evaluating alternatives for the CCP. It attempts to accurately summarize significant comments made during the meeting and recorded on easel paper at the "discussion tables" or submitted in writing at the meeting. No attempt has been made to verify the accuracy of the comments or to respond to them. Comments submitted after this public meeting will be summarized in a separate report.

Planning Update Number 1 and two U.S. Fish and Wildlife Service fact sheets—*National Wildlife Refuge System Improvement Act of 1997* and *Three Policies Implementing the National Wildlife Refuge System Improvement Act of 1997*—were provided to the members of the public in attendance to provide background information. The general refuge brochure and the Watchable Wildlife brochure¹ also were available as handouts. The public scoping meeting agenda, the Wapato Lake Questions and Answers fact sheet, and the issues comment form are attached to this report (Appendices A–C).

PARTICIPANTS

TRNWR was represented at the meeting by the following USFWS staff members, volunteers, and consultants:

Ralph Webber, Project Leader, Tualatin River National Wildlife Refuge
Chris Lapp, Deputy Project Leader, Tualatin River National Wildlife Refuge
Kim Strassburg, Visitor Services Manager, Tualatin River National Wildlife Refuge
Pete Schmidt, Wildlife Biologist, Tualatin River National Wildlife Refuge
John Schweitzer, Maintenance Worker, Tualatin River National Wildlife Refuge
Scott McCarthy, Branch Chief, Refuge Planning, Pacific Region
Chris Seal, Private Lands Biologist, Willamette Valley National Wildlife Refuge Complex
Tom Miewald, Geographer, Pacific Region
Colleen Irvine, Zone Law Enforcement Officer, Western Oregon
Maren Murphy, Refuge Planner (AmeriCorps), Pacific Region
Lacey Wall, Refuge Planner (AmeriCorps), Pacific Region
Peter Hvidsten, (AmeriCorps), Pacific Region
Sarah Gray, Wildlife Center Coordinator, Friends of Tualatin River National Wildlife Refuge
Jenna Mendenhall, Environmental Education Specialist, Friends of Tualatin River National Wildlife Refuge

¹ Due to their large electronic file size, a copy of *Planning Update* Number 1, these fact sheets, and these brochures are not included in this report.

Gardiner Platt, Environmental Education Coordinator, Friends of Tualatin River National Wildlife Refuge

Bonnie Anderson, Refuge Volunteer

Sharon Miller, Refuge Volunteer

Dick Winn, Refuge Volunteer

Leah Price, Refuge Volunteer

Bunny Hirtzel, Refuge Volunteer

Berk Moss, Refuge Volunteer

Gary Fawver, Refuge Volunteer

Arlin Inman, Refuge Volunteer

Cheryl Hart, Refuge Volunteer

Staci MacCorkle, Natural Resources Scientist, SWCA Environmental Consultants

Steve Moore, Principal, Bigfoot Consulting

Susan Saul, Principal, Cusy Coyllur Communications

Approximately 20 members of the public attended this meeting. In addition, John Valley from U.S. Senator Jeff Merkley's staff attended.

Tualatin Riverkeepers submitted a formal comment letter (Appendix D).

MEETING INTRODUCTION

The public scoping meeting was held from 7:00 to 9:00 p.m. on Tuesday, November 30, 2010, at the Wildlife Center. Visitor Services Manager Kim Strassburg opened the meeting with a welcome and overview of the meeting purpose, agenda, process and logistics. She also explained the discussion tables located around the Wildlife Center.

Project Leader Ralph Webber welcomed the participants and introduced the core refuge staff (Chris Lapp, Pete Schmidt, Kim Strassburg, and John Schweitzer), Scott McCarthy, Chris Seal, Tom Miewald, Colleen Irvine, and the three SWCA Environmental Consultants contractors (Staci MacCorkle, Steve Moore, and Susan Saul). Ralph also introduced the refuge volunteers who were helping with the meeting in various capacities. He also introduced John Valley from Senator Jeff Merkley's staff.

Ralph Webber reviewed the meeting purpose, the meeting agenda, and where the refuge was in the CCP process. Ralph Webber and Chris Lapp presented a slideshow to provide background information to the meeting participants.

Ralph Webber reviewed:

- the refuge purposes
- an overview of the National Wildlife Refuge System
- the National Wildlife Refuge System Improvement Act of 1997
- the National Wildlife Refuge System mission
- the purpose and goals of comprehensive conservation planning
- the "wildlife first" management mandate
- ecosystem approach
- the CCP schedule

- an overview of the National Wildlife Refuge System’s “Big Six” priority uses
- appropriate uses
- compatibility determinations

Chris Lapp presented:

- an overview of Tualatin River National Wildlife Refuge
- Urban Refuge Policy of 1991
- geographic orientation to the refuge units
- refuge purposes
- priority resources and habitats
- issues identified through internal scoping
- refuge programs
- refuge contact information

ISSUES AND PUBLIC COMMENTS

Following the background presentations, meeting participants were invited to visit seven discussion tables focused on the issues identified during internal scoping. Each discussion table was staffed and illustrated with maps and issue-related resources. Each discussion table had a display of several open-ended issue-related questions to prompt discussion and a pad of blank easel paper for participants to record their comments.

Habitat Restoration and Management

Chris Lapp and Tom Miewald staffed this discussion table. Visuals included before-and-after photographs of wetland restoration, refuge maps, and hydrologic model diagrams.

Issue Questions

- What kinds of monitoring and research are needed to guide habitat restoration and adaptive management?
- Where and how should the refuge allow natural hydrologic processes to play a role in habitat restoration? Where should the refuge continue current management practices (water control structures, pumps, dikes, etc.)?
- What factors should the refuge consider for directing restoration and management options for habitats of Wapato Lake and/or other areas of the refuge?
- What role should the refuge play within its boundaries to support habitats and wildlife corridors in the larger landscape?

Comments

No comments were recorded on the easel paper at this discussion table. Written comments were submitted.

- Tualatin Riverkeepers urges USFWS to use natural ecosystems to manage hydrology on the refuge.

- Past management decisions on the Atfalat'i (Steinborn) and Tualatin River (Dennis) Units of the refuge have relied on engineered control structures to manage water. These systems are expensive and permanent and support a narrowly limited range of management objectives. Using natural systems, restoring floodplains and stream channels, and reintroduction of beavers can support a broader range of ecological functions. Rather than using steel and concrete, we would like to see refuge management restore Chicken Creek on the Atfalat'i Unit and the Tualatin River on the Wapato Lake Unit to their historical channels. These historic channels have the structure and seed banks to support the highest diversity of song birds, small mammals and amphibians. All of these species and communities are important components of a sustainable refuge.
- Engineered concrete structures are fixed and do not allow: stream channels to wander across the floodplain and secondary succession of seral stages. Streams and rivers that are allowed to leave their banks and connect with the adjacent floodplain create a diversity of habitats that result in an increase in fish and wildlife species diversity. For example channel diversity has the potential to increase the diversity of salmon life history strategies and to increase in salmonid productivity.
- Control structures are expensive to construct and maintain, and require continuous manipulation of flood gates. Relying on humans to manipulate the hydrograph by opening and closing gates on the control structures is expensive and can result in human error with unintended adverse consequences (e.g., flooding and killing expensive restoration plantings). The significant expense of such systems is not justified particularly when the loss of natural ecosystem services is considered. Rather than controlling hydrology for waterfowl production we urge the refuge to restore historic hydrology and stream channels to support a higher diversity of species.
- The success of the natural systems approach to hydrology when restoring habitat in the Tualatin Valley is demonstrated at the Thomas Dairy wetland next to Cook Park in Tigard, Metro's Munger Natural Area across the river from the Riverboat (Oleson) Unit of the TRNWR, and Metro's Gotter Prairie Natural Area.
- Concrete control structures on the refuge can have negative impacts on water quality in the Tualatin River. When ponds that have had high concentrations of waterfowl are drained into the river, it releases high concentrations of nutrients and bacteria to the river. Flushing a duck toilet is detrimental to the river. Oregon Department of Environmental Quality has listed the Tualatin River as "water quality limited" for temperature, nitrogen, phosphorus and bacteria under Section 303d of the Clean Water Act. Restoring wetlands and streambeds on the refuge to their historic morphology without dikes and control structures allows infiltration and a slow release of water in the non-critical water quality season and uses evaporation in the season when the river is more sensitive to temperature and the discharge of nutrients and bacteria.
- In the summer of 2008 U.S. Geological Survey in a forensic study of a toxic cyanobacteria bloom, traced the source of cyanobacteria and supporting nutrients to a discharge from Wapato Lake. We believe that removal of the Wapato Lake dike, pumps, canals and control structures, and restoring the river bed to its historic course and the lake bed to its historic plant communities will prevent future discharges of high concentrations of nutrients and cyanobacteria. Preventing such discharges is critically important to the Joint Water Commission's intake which supplies drinking water to 400,000 residents of the Tualatin Valley is downstream from Wapato Lake.

Wildlife and Habitat Management

Pete Schmidt and Chris Seal staffed this discussion table. Their illustrations include maps and photographs of birds and rare habitat types.

Issue Questions

- What management strategies should the refuge pursue to maintain high quality habitat? (Some examples include prescribed fire, grazing, mowing/disking, herbicide use, crop management)
- What role can the refuge play in the recovery of rare, threatened, or endangered plant and animal species and their associated habitats?

Comments

- Manage Wetland Cell 25 to provide quality shorebird habitat year round through hydrology modifications
- Aug – Sep not sufficient shorebird habitat

Species with Management Challenges (Geese, Elk, Beaver, Nutria, Mosquitoes, Non-native and Invasive Plants and Animals)

Steve Moore and Staci MacCorkle staffed this discussion table. The visuals included photographs of some of the species, both native and non-native, posing management challenges.

Issue Questions

- How should the refuge approach management of problem species?
- What criteria should be used to determine the need for management actions?
- Which species pose the greatest threat to refuge resources?

Comments

- Kill nutria, bullfrogs, carp and other invasive species—Himalayan blackberry
- Remove teasel and reed canary grass
- With climate change, may we need to change our ideas of what species are native, and what species are adapted to our new ecosystem
- As Wapato Lake and other refuge properties are restored, deer and elk populations will likely grow on the refuge. If depredation becomes an issue, limited hunting may become a desirable management tool where compatible with other refuge functions and uses. The limited hunting should be coordinated with state agencies and universities to provide opportunities for research and monitoring. Hunting by refuge staff to control nutria and other invasive species should continue to be a management tool available to the refuge.

Visitor Services

Kim Strassburg, Susan Saul, and Berk Moss staffed this discussion table. Visuals included the refuge trail map, a photographic collage of the Big Six public use activities, samples of the refuge's

environmental education curriculum, and a Discovery Pack, one of the environmental education tools.

Issue Questions

- What types of compatible public use should the refuge provide at the Wapato Lake Unit?
- Are there additional compatible public use opportunities that should be provided at the Sherwood Units?
- What specific types of educational/interpretive programs should the refuge provide?
- Should the refuge charge an entrance fee or user fees to participate in high-quality programs? If so, how much? (Money collected would directly support staff and programs.)

Comments – Hunting

- Public hunting very important especially near Metro area
- Big: foster young hunters/families—waterfowl in particular
- Upland birds perhaps; maybe elk and deer if feasible
- Maybe at Oleson
- Some existing refuge lands already have history/opportunity/rights
- Concern that refuge holds birds during the day and they leave at night to feed and return before daylight (shooting hours). Refuge hunts will help move birds off-refuge during day for hunting off-refuge. Concerned about geese.
- If deer/elk hunts, use shotguns for safety
- Like lottery system at Umatilla NWR
- Can refuge work with ODFW in WA county? Closer to Sherwood?
- Hunting promotes economic benefits
- Keep ‘em coming back and teaching young hunters
- Refuge hunt would provide inexpensive option, especially for new hunters and youth
- Believes 60%-70% of potential deer harvest in Willamette Zone (ODFW) is lost/unused due to lack of public access
- Waterfowl hunting could reduce crop depredation by geese
- Elk/deer hunts could reduce vehicle accident potential
- Equal access to hunting blinds for non-hunters w/o taking away from hunters
- Controlled waterfowl hunts – possibly for youth
- I would like to see public hunting on refuge areas. The refuge has absorbed a number of private hunting areas and needs to provide an opportunity for public hunting.
- Tualatin Riverkeeper recommends that hunting be limited on the refuge to a management tool for specific management objectives where compatible with other uses.
- Waterfowl hunting is an economic survival tool for numerous farmers in the Tualatin Valley and we would not like to see the refuge put these neighboring property owners at a competitive disadvantage. Further, with the large number of hunt clubs on neighboring farms, waterfowl need a real “refuge” to maintain viable populations and protect this economic resource in the Tualatin Valley.

Comments—Other Visitor Services

- Fishing good idea—mostly warm water, frogs, crawdads, too—lots of potential opportunities, very important for youth
- Any place refuge has access to river could be fishing opportunity

- Consider access for canoes/kayaks (maybe hunters on the river) – ramp?
- Think carefully about if/how hunting and fishing might conflict. Think about when and where to avoid conflicts (safety, quality)
- Wapato Lake should have trails like Sherwood Units, both forested and open
- Please consider the negative reaction to charging a fee, however small, to use the refuge! Comments directed towards me are negative in the extreme. I understand the rationale to charge a fee but it would negate all the work by the F&WS and the Friends et al. This is an Urban Refuge with different Users! –Dick Winn
- Quieter gravel or other material for trails
- Position photo blinds so birds will be front lit in morning
- It would be nice to have canoes/kayaks to check out from the refuge office and a place to access the river for paddling/wildlife viewing.
- Would like to see expanded use of west trails in Sherwood Unit in winter season. I question how sensitive the wildlife is in those areas, especially considering traffic noise on Roy Rogers Road.
- Benches: orient benches facing away from trail; there are a couple of benches where hikers walk directly in front of seated visitors.
- If going to charge a fee, opportunity for buying an unlimited visitation/membership card vs. “pay as you go.” Rather see it tax supported than fee based.
- The Tualatin River is a significant recreational resource for the people of the Tualatin Valley and a significant economic resource for the tourism industry. Public access that is compatible with wildlife needs and ecological functions of the refuge is important. Tualatin Riverkeepers has several specific recommendations on recreation and public access.
 - A. Tualatin Riverkeepers are working to establish the Tualatin River Water Trail with public access points for human-powered craft every 5 to 7 miles on the lower 40 miles of the river. Some target areas for public access are near refuge properties. Schamburg Bridge is one target area. An area in private ownership on the NW corner of the bridge on Elsner Road would be an ideal access site. This site is across the river from the Atfalat’i Unit. If this private property is not available for public acquisition, alternative sites on the Atfalat’i Unit or the Tualatin River Unit could fit the objectives of the Tualatin River Water Trail. We urge the USFWS to cooperate with partners including Metro and Tualatin Riverkeepers in the planning, acquisition, development and management of river access in the vicinity of Schamburg Bridge.
 - B. Metro has acquired properties at the Farmington Bridge and at Munger Lane, across from the Steamboat Unit for public access facilities. We urge the TRNWR to fully participate in the planning, development and management of these two sites so that objectives of the Tualatin River Water Trail and the refuge are most fully realized.
 - C. The trail system on the Atfalat’i Unit has been developed to accommodate more public use than other units of the refuge. As this unit of the refuge is in the vicinity of several planned and existing regional trails we urge the refuge to optimize interconnections. Further, the planned Tonquin Regional Trail provides opportunities for cooperative, funding, planning and management between USFWS, Metro and other local governments.
 - D. While the Atfalat’i Unit trails have been designed to accommodate high public use, we are looking for opportunities for “off trail” exploration of nature on other refuge units that would not receive as much pressure from the public. We don’t see intensive activities such as biking, dogs, off road vehicles and horseback riding as compatible with any parts of the refuge. However, there is a demand for off-trail nature study and hike-in

observation (e.g., bird watching) that may be compatible with refuge objectives in some of the more remote areas.

Community Partnerships

Sarah Gray and Gardiner Platt staffed this discussion table. Visuals included a photographic collage of volunteers in actions and the volunteers' brochure.

Issue Questions

- How should the refuge better engage community members?
- Should the refuge expand existing partnerships and/or foster new partnerships? Is so, how?

Comments

- Work with Pacific University
- Engage business owners surrounding Wapato Lake Unit
- Reach out to the retired community
- Reach out to general public—outside the schools. How can we get our name out there? More than it is now...
- Hands On Portland website
- Google—get TRNWR to pop up on top—how? (Keywords: hiking, nature, outdoor activities)
- Neighborhood habitat consultation for nearby properties to support/complement refuge habitats. Ex.: farmers—convert acreage to rip[arian] Habitats. Wapato. (ex. Audubon Backyard Habitats)
- Work with Metro to increase accessibility to refuge via public transit and trail systems: Tonquin Trail
- Work with Federal Highways or State Highways to construct a turning lane into refuge's driveway on Hwy 99
- Work with universities to bring graduate research to the refuge
- Offer opportunities for career development for high school/univ students: job shadows, student mentoring programs
- Work with TRK to get water access on Elsner Road
- Work with McMenamins to produce refuge-themed seasonal beers: Wapato Wheat, Swan Stout, Sparrow Stout, Pintail Porter, Pelican Porter, Ibis IPA (we don't have ibis but you get the picture)
- Tualatin Riverkeepers is eager to be your active partner in planning, promoting, managing and restoring the Tualatin River National Wildlife Refuge.

Wapato Lakebed Management

Ralph Webber staffed a discussion table, which presented a timeline of USFWS actions at Wapato Lake. The display included a photograph of Wapato Lake and the table had copies of the Wapato Lake Questions and Answers document.

Comments

No comments were recorded on the easel paper at this discussion table. Written comments were submitted.

- Water is essential to healthy functioning ecosystems in the Tualatin Valley. Water rights that come with acquisition of refuge properties are a valuable commodity that should not be squandered. We urge the USFWS to use acquired water rights to the best advantage of local natural ecosystems and not divert water to other uses.

Other Issues

Maren Murphy and Lacey Wall staffed this discussion table.

Issue Question

- Are there other issues that should be addressed in the CCP?

Comments

- Rock Creek public access in the future? Walking, hiking, development of trails.
- Further acquisition in the RC [Rock Creek] unit.
- Canoe access on Elsner Road.

APPENDIX A

Sherwood Public Scoping Meeting Agenda

AGENDA

Sherwood Public Scoping Meeting
Comprehensive Conservation Plan
Tualatin River National Wildlife Refuge
Tuesday, November 30, 2010, 7:00pm-9:00pm

- 7:00-7:10 Welcome and Overview (Kim)
- 7:10-7:45 Introductions and Power Point Presentation (Ralph and Chris)
- 7:45-7:50 Review Discussion Tables location and process (Kim)
- 7:50-9:00 Discussion Tables

APPENDIX B

Wapato Lake Questions and Answers

Questions and Answers – Wapato Lake Wetland

Where is Wapato Lake?

Wapato Lake is located in the Tualatin River drainage of northwest Oregon, near the town of Gaston, about a 45-minute drive from Portland.

What is the Fish and Wildlife Service's interest in Wapato Lake?

Wapato Lake is a seasonal lake and wetland that has been highly altered over its natural drainage and flow. Nevertheless, the lakebed and much of the adjacent area remain undeveloped. It provides excellent habitat for a large number of migratory birds, especially wintering tundra swans. In 1992, the U.S. Fish and Wildlife Service (Service) established the Tualatin River National Wildlife Refuge near the town of Sherwood. In 2007 the Wapato Lake Unit of the Tualatin River National Wildlife Refuge was established. Since that time, the Service has been purchasing land from willing sellers within the refuge boundary. As of late 2010, the Service has purchased the majority of the lakebed.

What are the Fish and Wildlife Service's plans for managing Wapato Lake?

The Service is just beginning to develop a 15-year Comprehensive Conservation Plan (CCP) for Tualatin River National Wildlife Refuge, including the Wapato Lake Unit. While formal management alternatives for the plan have not yet been generated, restoration of Wapato Lake will be given serious consideration. Other public agencies support restoration of the lakebed to a system that is more representative of its natural and historical ecological functions. Such restoration would likely provide benefits to migratory birds, endangered fish species and other wildlife, while also enhancing protection of the area's water quality.

What is the likely timeframe for implementing management options at Wapato Lake?

The timeframe depends on two things: the Service's acquisition of the remaining portions of Wapato Lake and the completion of the 15-year CCP. Land acquisitions within the lakebed may be completed by 2012, although additional acquisitions within the refuge boundary will be ongoing. The CCP is scheduled to be completed by the end of 2012. Depending on funding, implementation of the selected plan should begin between 2013 and 2015.

What is the Fish and Wildlife Service doing in the interim?

During the planning process and until a management alternative is selected, the Service is largely continuing with existing management at Wapato Lake. Current management includes working with local partnerships to drain the lake in the spring and engaging in a cooperative dry-land farming program in the summer. During the rainy season in fall and winter the lake fills with runoff and rain water and provides excellent migratory waterfowl and shorebird habitat. In the spring, water is actively pumped out of the lakebed, and the drain-farm-fill cycle continues.

What are the current concerns regarding Wapato Lake management and water quality?

Since the 1930s, water in the lake has been drained to the Tualatin River in the early spring, and the Wapato Lake bottomlands have been farmed throughout the summer. Draining the lakebed in the spring is critical because the water temperature is still relatively cool. If the water is not removed before temperatures rise in the summer, then algae begin to bloom in the stagnant water. If the warmer, algae-laden water is pumped from the lakebed into the Tualatin River, it can pose water quality concerns downstream. This was the case in 2008 when breaks in aging lakebed levees delayed drainage of the lake until June and July. After river levels receded and the levee breaks were repaired, summer pumping to de-water the lake released stagnant waters into the Tualatin River. This unfortunate scenario caused concerns for potential impacts to downstream users who depend upon the river for their domestic water supply. In 2009 a similar threat existed when the aging primary pump for draining the lake failed. Several portable pumps were used to drain the lake at considerable expense.

Whose responsibility is it to maintain Wapato Lake's aging levees, pump system, and canals?

Operation and maintenance of the Wapato Lake water management system is the responsibility of the Wapato Improvement District (WID). WID was formed under state and county laws to manage local irrigation and related functions within the Wapato Lake area. As a landowner within the WID boundary, the Service is a member of the WID. At this time, the Service owns more than 75% of the land within the WID boundary. All remaining WID members are assessed fees to maintain the water management system, although, it remains unclear whether non-Service members will need irrigation water to farm at this time.

While the Service does not hold a position on the WID Board, as the majority landowner in the district, the Service does recognize that it plays a significant role in Wapato Lake water management.

Will the Wapato Improvement District continue to function as a corporation?

The by-laws allow for dissolution of the WID if landowners controlling 75% or more of the acreage within the district's boundary elect to terminate the WID's operations. The WID has not yet undergone formal dissolution proceedings and it is still operational on paper. The Service has accepted an increased responsibility to manage winter and early spring Wapato Lake water levels in the near term until decisions are reached, through the CCP process, about how the lake will be managed in the future.

What will happen to the Wapato Lake water management infrastructure?

When the Service purchased farmlands within the WID boundary, it did not acquire title to land and physical property owned and managed by the WID. If the District is dissolved, it is our understanding that the WID assets may be transferred to Washington and Yamhill counties or to the Tualatin Valley Irrigation District (TVID). It is also possible for the pumps, levees, etc. to be donated or sold to the Service. The Service cannot spend Federal appropriations on facilities it does not own. Subject to funding availability, refuge operational and maintenance monies could be used on the WID infrastructure one year following its transfer to the Service.

What is the Fish and Wildlife Service doing to address water management issues now?

The Service is working with other agencies and organizations to respond to existing concerns and develop contingency plans for the future. The Service is working with the WID on water management transition issues, as well as with Clean Water Services (CWS) and Oregon Department of Environmental Quality (DEQ) on pumping and dike issues, including water quality concerns. The Service has also completed repairs on the primary pump.

Will the primary electric pump be functional for 2011?

The primary pump, which failed in 2009, has been repaired. The Service intends to make it available for use to drain lake water in winter and spring of 2011. The DEQ, on behalf of WID, sets guidelines for the types of pumps, as well as approvals and restrictions for their season of use. These guidelines are described in the Wapato Lake Water Quality Management Plan for Wapato Improvement District. It is the intention of the Service to follow these guidelines when the repaired equipment is in place and fully functioning. Contingencies for responding to potential failure of the primary pump and/or the levee systems will be developed in cooperation with DEQ, CWS, and TVID.

What is the interim prognosis for Wapato Lake dike maintenance until new management actions are selected and implemented?

The Wapato Lake dike system is extremely old. It may continue to function for a few more years and could just as likely suffer significant failure in the near future. CWS completed a cursory assessment to determine the projected useable life of the existing system (May, 2010). The assessment report indicated that fully retrofitting the aged system would require a significant investment of resources. It also noted that past problem areas are not in need of immediate attention at this time because the interim repairs and/or actions are temporarily sufficient. Some repair actions have already been completed by the Service to support the interim plan for lake water management. Decisions resulting from the CCP process will direct how future resources should be used relative to long-term plans for the levees.

How has irrigation water been used in the past, and how might it be applied in the interim until decisions are made about the levee system at Wapato Lake?

TVID assesses their patrons for the services of providing infrastructure and management to deliver irrigation water for farming. Through an agreement with the WID, TVID is allowed to use the Wapato Lake levee system to deliver water to members of the WID. Over the years this agreement has provided mutual benefits to both parties of the agreement. As one of the three WID members, the Service is assessed and continues to pay fees to TVID for water delivery services. However, the Service chooses to dry-land farm under several cooperative farming agreements. As a result, benefits may be realized by others when water that goes unused by the Service can be put to irrigation use by downstream users. If the Service acquires all the land within the WID boundary and does not require irrigation water delivery, then the agreement with TVID for use of the levee system to deliver water to the WID members will be unnecessary.

Will the Fish and Wildlife Service continue delivering irrigation water to farmers on behalf of the Tualatin Valley Irrigation District?

It is unlikely that the CCP's selected management plan for the Wapato Lake Unit of the Tualatin River National Wildlife Refuge will include delivering irrigation water. Although the Service recognizes the importance of irrigation water to the farming community, the delivery of irrigation water is not part of the National Wildlife Refuge System's mission or the official purposes for establishing the Tualatin River National Wildlife Refuge. Federal legislation mandates that first and foremost, the mission of the National Wildlife Refuge System is wildlife conservation. In addition, any other use of a national wildlife refuge must first be determined compatible with the purposes for establishing the refuge before it can be allowed. Regulations and policy establish specific guidance for making this determination. It is highly unlikely that delivering irrigation water to farmers could be determined compatible. The Service will continue to work with TVID to find alternative means of delivering irrigation water to local farms.

APPENDIX C

Sherwood Public Scoping Meeting Comment Form



**TUALATIN RIVER NATIONAL WILDLIFE REFUGE
PUBLIC SCOPING MEETING**

November 30, 2010

Please Give Us Your Comments

Habitat Restoration: *What kinds of monitoring and research are needed to guide habitat restoration and adaptive management? Where and how should the refuge allow natural hydrologic processes to play a role in habitat restoration? Where should the refuge continue current management practices (water control structures, pumps, dikes, etc.)? What factors should the refuge consider for directing restoration and management options for habitats of Wapato Lake and/or other areas of the refuge? What role should the refuge play within its boundaries to support habitats and wildlife corridors in the larger landscape?*

Habitat and Wildlife Management: *What management strategies should the refuge pursue to maintain high quality habitat? (Some examples include: prescribed fire, grazing, mowing/discing, herbicide use, crop management) What role can the refuge play in the recovery of rare, threatened or endangered plant and animal species and their associated habitats?*

Species With Management Challenges (Geese, Elk, Beaver, Nutria, Mosquitoes, Non-Native and Invasive Plants and Animals): *How should the refuge approach management of problem species? What criteria should be used to determine the need for management actions? Which species pose the greatest threat to refuge resources?*

Please Turn Over

Visitor Services: *What types of compatible public use should the refuge provide at the Wapato Lake Unit? Are there additional compatible public use opportunities that should be provided at the Sherwood Units? What specific types of educational/interpretive programs should the refuge provide? Should the refuge charge an entrance fee or user fees to participate in high-quality programs? If so, how much? (Money collected would directly support staff and programs.)*

Community Partnerships: *How should the refuge better engage community members? Should the refuge expand existing partnerships and/or foster new partnerships? If so, how?*

Other Issues: *Are there other issues that should be addressed in the CCP?*

Your Name and Address (Optional):

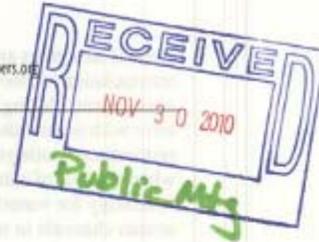
APPENDIX D

Tualatin Riverkeepers Letter



TUALATIN RIVERKEEPERS.

12360 SW Main Street • Tigard, Oregon 97223
503-426-7507 • fax: 503-620-7645 • email: info@tualatinriverkeepers.org
www.tualatinriverkeepers.org



November 29, 2010

Refuge Manager,
Tualatin River National Wildlife Refuge
19255 S.W. Pacific Highway
Sherwood, OR 97140.

Subject: Comments from Tualatin Riverkeepers on Future Management of the Tualatin River National Wildlife Refuge

Water Rights

Water is essential to healthy functioning ecosystems in the Tualatin Valley. Water rights that come with the acquisition of refuge properties are a valuable commodity that should not be squandered. We urge the USFWS to use acquired water rights to the best advantage of local natural ecosystems and not divert water to other uses.

Natural Approaches to Hydrology

Tualatin Riverkeepers urges USFWS to use natural systems to manage hydrology on the refuge.

Past management decisions on the Atfalát'i (Steinborn) and Tualatin River (Dennis) Units of the refuge have relied on engineered control structures to manage water. These systems are expensive and permanent and support a narrowly limited range of management objectives. Using natural systems, restoring floodplains and stream channels, and reintroduction of beavers can support a broader range of ecological functions. Rather than using steel and concrete, we would like to see refuge management restore Chicken Creek on the Atfalát'i Unit and the Tualatin River on the Wapato Lake Unit to their historical channels. These historic channels have the structure and seed banks to support the highest diversity of song birds, small mammals and amphibians. All of these species and communities are important components of a sustainable refuge.

Engineered concrete control structures are fixed and do not allow: stream channels to wander across the floodplain and secondary succession of seral stages. Streams and rivers that are allowed to leave their banks and connect with the adjacent floodplain create a diversity of habitats that result in an increase in fish and wildlife species diversity. For example channel diversity has the potential to increase the diversity of salmon life history strategies and to increase in salmonid productivity.

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Control structures are expensive to construct and maintain, and require continuous manipulation of flood gates. Relying on humans to manipulate the hydrograph by opening and closing gates on the control structures is expensive and can result in human error with unintended adverse consequences (e.g., flooding and killing expensive restoration plantings). The significant expense of such systems is not justified particularly when the loss of natural ecosystem services is considered. Rather than controlling hydrology for waterfowl production we urge the refuge to restore historic hydrology and stream channels to support a higher diversity of species.

The success of the natural systems approach to hydrology when restoring habitat in the Tualatin Valley is demonstrated at the Thomas Dairy wetland next to Cook Park in Tigard, Metro's Munger Natural Area across the river from the Riverboat (Oleson) Unit of the TRNWR, and Metro's Gotter Prairie natural area.

Concrete control structures on the refuge can have negative impacts on water quality in the Tualatin River. When ponds that have had high concentrations of waterfowl are drained into the river, it releases high concentrations of nutrients and bacteria to the river. Flushing a duck toilet is detrimental to the river. These ponds can also have a significant temperature impact on the river. Oregon Department of Environmental Quality has listed the Tualatin River as "water quality limited" for temperature, nitrogen, phosphorus and bacteria under section 303d of the Clean Water Act. Restoring wetlands and streambeds on the refuge to their historic morphology without dikes and control structures allows infiltration and a slow release of water in the non-critical water quality season and uses evaporation in the season when the river is more sensitive to temperature and the discharge of nutrients and bacteria.

In the summer of 2008 US Geological Survey in a forensic study of a toxic cyanobacteria bloom, traced the source of cyanobacteria and supporting nutrients to a discharge from Wapato Lake. We believe that removal of the Wapato Lake dike, pumps, canals and control structures, and restoring the river bed to its historic course and the lake bed to its historic plant communities will prevent future discharges of high concentrations of nutrients and cyanobacteria. Preventing such discharges is critically important to the Joint Water Commission's intake which supplies drinking water to 400,000 residents of the Tualatin Valley is downstream from Wapato Lake.

Hunting on the Refuge

Tualatin Riverkeeper recommends that hunting be limited on the refuge to a management tool for specific management objectives where compatible with other uses. Waterfowl hunting is an economic survival tool for numerous farmers in the Tualatin Valley and we would not like to see the refuge put these neighboring property owners at a competitive disadvantage. Further, with the large number of hunt clubs on neighboring farms, waterfowl need a real "refuge" to maintain viable populations and protect this economic resource in the Tualatin Valley.

As Wapato Lake and other refuge properties are restored, deer and elk populations will likely grow on the refuge. If depredation becomes an issue, limited hunting may become a desirable management tool where compatible with other refuge functions and uses. The limited hunting should be coordinated with state agencies and universities to provide opportunities for research and monitoring. Hunting by refuge staff to control nutria and other invasive species should continue to be a management tool available to the refuge.

Public Access and Recreational Activities

The Tualatin River is a significant recreational resource for the people of the Tualatin Valley and a significant economic resource for the tourism industry. Public access that is compatible with wildlife needs and ecological functions of the refuge is important. Tualatin Riverkeepers has several specific recommendations on recreation and public access.

Tualatin Riverkeepers are working to establish the Tualatin River Water Trail with public access points for human-powered craft every 5 to 7 miles on the lower 40 miles of the river. Some target areas for public access are near refuge properties. Schamburg Bridge is one target area. An area in private ownership on the NW corner of the bridge on Elsner Road would be an ideal access site. This site is across the river from the Atfálat'í Unit. If this private property is not available for public acquisition, alternative sites on the Atfálat'í Unit or the Tualatin River Unit could fit the objectives of the Tualatin River Water Trail. We urge the USFWS to cooperate with partners including Metro and Tualatin Riverkeepers in the planning, acquisition, development and management of river access in the vicinity of Schamburg Bridge.

Metro has acquired properties at the Farmington Bridge and at Munger Lane, across from the Steamboat Unit for public access facilities. We urge the TRNWR to fully participate in the planning, development, and management of these two sites so that the objectives of the Tualatin River Water Trail and the refuge are most fully realized.

The trail system on the Atfálat'í Unit has been developed to accommodate more public use than other units of the refuge. As this unit of the refuge is in the vicinity of several planned and existing regional trails we urge the refuge to optimize interconnections. Further, the planned Tonquin Regional Trail provides opportunities for cooperative, funding, planning and management between USFWS, Metro and other local governments.

While the Atfálat'í Unit trails have been designed to accommodate high public use, we are looking for opportunities for "off-trail" exploration of nature on other refuge units that would not receive as much pressure from the public. We don't see intensive activities such as biking, dogs, off road vehicles and horseback riding as compatible with any parts of the refuge. However, there is a demand for off-trail nature study and hike-in

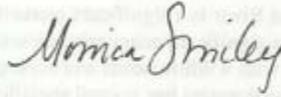
observation (e.g., bird watching) that may be compatible with refuge objectives in some of the more remote areas.

Thank you for this opportunity to comment on the future of the Tualatin River National Wildlife Refuge. As always, Tualatin Riverkeepers is eager to be your active partner in planning, promoting, managing and restoring the Tualatin River National Wildlife Refuge.

Sincerely,



Brian Wegener
Advocacy & Communications Manager



Monica Smiley
Executive Director

APPENDIX E

Photographs



Kim Strassburg records public comments regarding visitor services issues.



Chris Seal discusses habitat management issues with meeting participants.