AG WEST
SUPPLY

P.O. Box 47 / 9055 Rickreall Rd. Rickreall, OR. 97371
Phone: (503) 363-2332 Fax: (503) 363-5662
www.agwestsupply.com

September 20, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am writing to comment on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon. We are an agriculture equipment dealer in Oregon. We have 5 locations state wide, 4 locations in the Willamette Valley and one location in Madras, Jefferson County Oregon.

Since North Unit Irrigation District has the most junior water rights of the irrigation districts in the Deschutes Basin, water management decisions made in the HCP will be very critical to our operation. Any reductions in water to local farms could severely impact our ability to make ends meet and stay in business. Agriculture supports the economy here in Jefferson County, and we are proud of our support of our local community. Without enough water to irrigate our farmland, the whole county would suffer and the fiber of the community would change. Irrigation management is critical to us.

Since the initial lawsuit began we have seen a decrease in equipment purchases in our market in Jefferson county as well as surrounding counties. The economic impact to our business as a dealer for agriculture equipment, has and will continue to have dramatic negative impacts while local growers spend less on capital investments. While our business relies on the growth and future sustainability or our local ag economy for future survival so does the community of Jefferson County. Our business alone has seen a decrease of equipment purchases which directly impacts our ability to put back into the local economy as well as hire and sustain local employment. As a local business that has supported and worked alongside growers for over 85 years our concern for the future of agriculture is real and in jeopardy.

To that end, I am asking you to ensure that USFWS closely consider the economic impacts of changes in management or irrigation availability caused by the HCP. Even slight changes in management can have serious consequences for businesses like ours, and economic information needs to be accurate, comprehensive, and on a scale, that truly considers impacts to all farmers,

P.O. Box 47 / 9055 Rickreall Rd. Rickreall, OR. 97371
Phone: (503) 363-2332 Fax: (503) 363-5662
www.agwestsupply.com

businesses and the community who are impacted by management changes. I am happy to provide you with any information on impacts to my business from the HCP, and know other businesses in the area would as well.

Thank you for the opportunity to provide comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

Reed Grote
Ag West Supply – Division Manager

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:18 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Mary Bailey** <[redacted]>
Date: Sun, Sep 17, 2017 at 3:30 PM
Subject: Deschutes River Basin HCP - draft EIS
To: Peter_Lickwar@fws.gov

Peter,

I strongly support management that will result in a healthy river with adequate flows and protection for wildlife.

For the Oregon spotted frog and other covered species, it is critical that flows be increased both in winter storage season and prior to the onset of breeding season, to prevent desiccation of egg masses.

I support reservoir management to have a long-term goal of 500+cfs. These increased flows will be critical to opportunities for habitat restoration for all covered species.

Thanks,

Mary Bailey
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Weidner, Emily <emily_weidner@fws.gov>

Fwd: HCP

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:17 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **ADRIAN BENNETT** <[redacted]
Date: Thu, Sep 14, 2017 at 4:03 PM
Subject: HCP
To: "Peter_Lickwar@fws.gov" <Peter_Lickwar@fws.gov>

Peter Lickwar,

I am very impressed with the total package of the HCP (Plan), as it addresses the many complex issues involved in proposing solutions to the Deschutes River Basin. In particular, I am in full support of the management goals, the concern for the Species (spotted frog, bull trout, steelhead, sockeye salmon, and spring Chinook salmon) in the Basin, as well as the mitigation and farming needs for water. To be sure, these are difficult issues to resolve but the effort to bring all parties to the table and have each as an invested entity in the success of the Plan is to be commended.

Adrian Bennett

[redacted]

[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Date: September 6, 2017

To: U.S. Fish and Wildlife Service
Bend Field Office
63095 Deschutes Market Road, Bend or 97701

Attn: Peter Lickwar

Re: Deschutes River Basin HCP
Draft Environmental Impact Statement

From: Gladys I. Biglor
[redacted]

Background Information:

Deschutes River Basin Habitat Conservation Plan Goal: Providing ***reliable*** *water for farmers and residents in the Deschutes Basin while conserving fish, wildlife, and water resources for future generations*.

FORMATION OF DISTRICTS: 545.025 Purposes of irrigation district;
(1) When owners of land that is irrigated or susceptible to irrigation desire to provide for the construction of works for irrigation of their land, to provide for the reconstruction, betterment, extension, purchase, operation or maintenance of works already constructed, or to provide for the assumption of indebtedness to the United States incurred **under the federal reclamation laws** on account of their lands, they may propose the organization of an irrigation district under the Irrigation District Law.

According to new U.S. Census Bureau statistics "The Bend-Redmond metropolitan area, consisting of Deschutes County, is listed as the third-fastest-growing Metropolitan Statistical Area from July 1, 2015, to July 1, 2016. The local area's population grew from an estimated 174,942 to 181,307, a 3.6 percent increase". *Bend Bulletin March 23, 2017*

Input to Deschutes River Basin Habitat Conservation Plan (HCP) Scoping:
Based on the above census data, demands on Deschutes River Basin water will only intensify. Conserving water resources for farmers, fish, wildlife, residents and visitors is critically important. Conserving water through increasing implementation of known and reliable conservation techniques, such as piping irrigation canals, and eliminating all unnecessary/nonessential designations of water is imperative to meet the goals of the HCP.

A good example of implementing conservation measures that benefit both the human and natural environment is conservation work by Three Sisters Irrigation District. As of 2017 TSID has restored 14.32 cfs to Whychus Creek all the while meeting the water needs of district agricultural patrons. This was achieved by piping sections of TSID

canals. TSID expects to be fully piped by 2018 thus increasing water flows in Whychus Creek while maintaining needed water to local farmers & ranchers with the whole-hearted support of the local community.

An example of a nonessential use of water that is detrimental to meeting the needs of ranchers, farmers, fish and wildlife, local residents, visitors and a healthy/vibrant Deschutes River Basin is the 2016 historical listing of a section of the Pilot Butte Canal by the National Park District Governor Kate Brown expressed concern about the inclusion of this section of the canal in the National Register.(*see letter dated July 10, 2015 to then Secretary Sally Jewell by Gov's NRP Advisor G.Goldfarb*) Additional nonessential uses of limited Deschutes River Basin water is preservation of property values, preservation of private water features and preservation of open canal water views (during limited irrigation season) to private property owners bordering irrigation canals. I do not include the use of irrigation water for hydroelectric production as a nonessential use as the water is fully captured, used then sent back into the Deschutes River Basin.

Disallowing nonessential wasteful uses of basin water will help the HCP meet its goals of providing reliable, and hopefully affordable, water for all irrigation district patrons while conserving as much water as possible for fish, wildlife and non-agricultural producing residents & visitors in the Deschutes Basin

Gladys I. Biglor
Gladys I. Biglor

Received - U.S.F.W.S.
SEP 22 REC'D
Bend Field Office

September 15, 2017

US Fish & Wildlife Service
63095 Deschutes Market Road
Bend, Oregon 97701

RE: NEPA Scoping Comments, Deschutes Basin HCP

To Whom It May Concern,

My name is Doug Breese and I have been a part of the Prineville, Crook County Community since 1939.

Farming and ranching has been a way of life for me and my family for all these years. I have been a part of many organizations and countless meetings over the years concerning environmental issues, among other natural resource concerns. I have participated in stream restoration work on my property on Ochoco Creek with our local Watershed Council and Soil and Water Conservation Service. Over the years I have seen transitions from different irrigation methods to conserve water and restore or enhance stream flows. I am also a patron of Ochoco Irrigation District receiving water from both Prineville Reservoir and Ochoco Reservoir. Over the years I have seen the cost of water increase, because of the need of consultants, attorneys, and specialist to help guide the district and landowners to a place of certainty to remain in business. There are many things I could share from my perspective, but for the sake of time and efficiency I will share a few comments.

1). NOAA reintroduced Steelhead above Pelton Round Butte Dam into the upper Deschutes and Crooked River Basins with the confidence that conditions that were present at that time were sufficient for all life stages. Now it seems there are requirements/demands that things need to improve and it is being put on the backs of the districts, water users and communities.

2). Have the services done an in-depth look at the benefits already provided by Ochoco and Prineville Reservoirs? Summer and fall stream flows and temperature reduction are a few.

3. I understand that the goal of the districts is to minimize and mitigate to the maximum extent practical. Is there a process or will the services require an economics analysis to be performed as part of the scoping process?

Thank you for the opportunity to comment.

Sincerely,

Doug Breese

Doug Breese

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basis HCP-draft EIS

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:28 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Sue Vanek** [redacted]
Date: Fri, Sep 22, 2017 at 5:31 PM
Subject: Deschutes River Basis HCP-draft EIS
To: peter_lickwar@fws.gov

September 20, 2017

U.S. Fish and Wildlife Service

Bend Field Office

Attn: Peter Lickwar

63095 Deschutes Market Road

Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am writing to comment on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon. I am a small business owner in Madras, Oregon. I have several appartment complexes. I service a lot of workers that live in Madras and work for the farmers in the North Unit Irrigation District.

Since North Unit Irrigation District has the most junior water rights of the irrigation districts in the Deschutes Basin, water management decisions made in the HCP will be very critical to all of the farming operations. Any reductions in water to the farms could severely impact my ability to make a living and stay in business.

Agriculture supports the economy here in Jefferson County, and I am proud of their support of our local community and my business. Without enough water to irrigate the farmland, the whole county would suffer and the livelihood of the community would change. Irrigation management is critical to those of us that depend upon agriculture for our income.

I am asking you to ensure that USFWS closely consider the economic impacts of changes in management and/or irrigation availability caused by the HCP recognizing that it will impact the business sector in Jefferson County. Even small changes in management can have major consequences for people that work for the farmers and impact the rest of the businesses in Madras. The economic information needs to be accurate, comprehensive, and on a scale that truly considers impacts to all farmers and the community who are impacted by any management changes.

Please do not hesitate to contact me if you have any questions on the impacts to a business such as mine.

Sincerely,

Sue Vanek

[redacted]

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

To: U.S. Fish and Wildlife Service
Attention: Peter Lickwar

I live on the river and care about the river like everyone. I am glad there is a collaborative conservation effort currently happening with a goal to restore the river. People are interested and are beginning to attend habitat conservation meetings to understand how partnerships are working together to make the river a habitable place for fish and wildlife.

Senator Merkley's office, driven by the Endangered Species Act is working hard to make funding available for the conservation of water use in agriculture in the Deschutes Basin. The conservation measures would result in water flow increases in the winter and a reduction of flow in the summer. Stable, more natural flows are the key to fixing and restoring the river, but it will take time because the Deschutes Basin is a complicated system.

Through the use of science and thoughtfulness in the long term, I hope enough of the problems will be solved to benefit our fish & wildlife. I also hope in due time, that the unnatural flooding of my property in the summer will be greatly reduced.

Regarding Incidental Take Permits: I am distrustful of the effects. Facing the possibility of insufficient NEPA compliance monitoring and fast processing, COID as a prime example would enjoy the benefits. They would be able to impact further harm to the spotted frog, bull trout, steelhead, sockeye and chinook salmon – carte blanche. At this time, the environmental objectives and management strategies related to the Deschutes River should be corrected and completed. An alternative to an Incidental Take Permit in the meantime needs to be reconsidered as a 'No Take', 'No Permit'.

Sincerely,
Nancy Capell
[redacted]

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP-EIS

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:26 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **ncasey** <[redacted]
Date: Fri, Sep 22, 2017 at 12:47 PM
Subject: Deschutes River Basin HCP-EIS
To: Peter_Lickwar@fws.gov

Dear Peter,

A Habit Conservation Plan is a great idea for the Deschutes Basin. The primary impact on the Deschutes River is early 20th century irrigation practices. The only reasonable conservation plan would be more water in the upper Deschutes in winter and less man caused flooding in the summer. The summer flood damages private property, adversely affects wildlife and plants, and interestingly, increases the silt load in Mirror Pond in Bend.

The notion that a incidental taking could be issued to the irrigation districts has to be a joke. Irrigating a desert with the subsequent loss of a large portion of the water was never a good idea.

Solutions for all particpants in this drama can be found. More water storage reservoirs north of Redmond, lining canals and increased monitoring and oversight by the Oregon Water Resources Department would help. The Federal government will have to be a big player in funding and reasonable solutions to benefit all the people of Oregon and the United States.

It would take a large leap in imagination to see how an incidental atking would help the situation, particularly a carte blanche approach to so many species.

Sincerely,
Nick Casey

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

CENTRAL OREGON
LANDWATCH

50 SW Bond St., Ste. 4 | Bend, OR 97702
Phone: (541) 647-2930
www.centraloregonlandwatch.org

September 21, 2017

Filed via email: Peter_Lickwar@fws.gov

U.S. Fish and Wildlife Service, Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, OR 97701

Re: Scoping Comments on USFWS Deschutes River Basin Habitat Conservation Plan

To Whom It Concerns:

Thank you for the opportunity to comment on the Deschutes River Basin Habitat Conservation Plan (HCP) project scoping. Central Oregon LandWatch is a conservation organization which has advocated for preservation of natural resources in Central Oregon for over 30 years. With over 200 members in Central Oregon, LandWatch has worked on water resource issues in the Deschutes River Basin and has succeeded in gaining special protection for Whychus Creek and the Metolius River and spring systems. LandWatch has lately been particularly concerned about flows in the Upper Deschutes River, the impact of the management of the irrigation diversions from the River, and maintenance of flows in the River's key tributaries, including Tumalo Creek.

Before commenting on the 11 subjects requested by the U.S. Fish and Wildlife Service (USFWS), LandWatch has one initial general concern. The subjects for which USFWS requests comments are quite broad, and invite a litany of comments of concerns, as the issues affecting the entire Deschutes River Basin are many and complicated. LandWatch is concerned about the many potential impacts that the issuance of an Incidental Take Permit (ITP) to the covered parties could have on seasonal flows, riparian habitat, water quality, agricultural sustainability, and the social, economic, and recreational values the Deschutes River Basin provides to the people and wildlife of Central Oregon. Without a draft HCP or project proposal from USFWS to reference, these comments express LandWatch's general concerns regarding water management in the entire Deschutes River Basin. LandWatch looks forward to providing additional comments as more specific HCP proposals become available.

LandWatch has in the past sought to be supportive of irrigated agriculture, and in particular of North Unit Irrigation District (NUID) and its efficient use of water. Unfortunately, the reluctance of Central Oregon Irrigation District (COID), Tumalo Irrigation District (TID), and others to make the changes that are necessary on wasteful hobby farm operations to meet the needs of the River and NUID now requires us to take a stronger stand in this HCP process.

LandWatch urges USFWS to consider and adopt a wide range of measures to include in the upcoming HCP, including using market-oriented solutions, piping of private laterals, and installing of on-farm efficiencies, as example. The current emphasis by the irrigation districts on big pipes is too narrow. While some piping of larger canals may be appropriate, it should not dominate the HCP and end up sinking the effort with its unrealistic cost. A diverse solution that draws on all approaches is best.

An additional key element of any HCP will be enforceable and effective measures. This includes making sure that all conserved water goes instream and that the district diversions from the river be actually reduced accordingly.

LandWatch also believes that a comprehensive environmental assessment is needed to examine the impacts of various alternatives. Of particular concern are potential impacts to groundwater and spring systems that support/provide cold water refugia for bull trout and steelhead.

The following comments are organized into the 11 subjects that USFWS requested comments on in its meeting handout distributed on August 15, 2017 in Bend. In the absence of a draft HCP or project proposal, most of LandWatch's comments are included in the first subject "1. Management issues and goals."

1. **Management issues and goals**
    a. Determination of minimum stream flows

The objective and function of the HCP should be to achieve the minimum instream flow needs for the five covered species, the Oregon spotted frog, bull trout, steelhead, sockeye salmon, and spring Chinook salmon. Those flow needs must be identified in the HCP and should include, but should not be limited to, instream water rights already set by the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Water Resources Department (OWRD).

Pursuant to statute, ODFW established minimum perennial stream flows for the Deschutes River Basin in 1969, and submitted these minimum flows to OWRD.[1] These threshold minimum flows are set in administrative rule.[2] ODFW has proposed additional instream water rights for the Deschutes River and its tributaries following the passage of the Instream Water Rights Act in 1987.[3] Achieving the seniority and stability of these recommended instream water rights should be an overall goal of the HCP. The HCP should include a detailed discussion of the recommended flows for each distinct river and stream in the plan area and how the HCP will attain those flows. All covered activities should be measured against their effectiveness in increasing instream flows, especially in the Upper

---

[1] Lauman, J. and Pitney, W. 1970. Fish and Wildlife Resources of the Deschutes Basin, Oregon, and Their Water Requirements. A Report with recommendations to the Oregon State Water Resources Board. Portland, Oregon. Available online: http://www.dfw.state.or.us/fish/water/docs/basin_investigations/5-BASIN-Deschutes.pdf

[2] OAR 690-505-0000

[3] *See* Golden B., and Aylward B. 2006. Instream Flow in the Deschutes Basin: Monitoring, Status and Restoration Needs. DWA Final Report. Bend (OR): Deschutes River Conservancy. Available online: http://www.deschutesriver.org/Instream-Flow-in-the-Deschutes-Basin.pdf

Deschutes River, to achieve the minimum stream flows and instream water rights recommended by ODFW and set in administrative rule. All activities of the covered parties, including operation and maintenance of diversions, pumps, intakes, and conveyance and delivery systems, should be carefully analyzed for their contribution to reduced flows. The HCP should pursue meaningful conservation measures that require the covered parties to restore instream flows to the levels recommended by ODFW and that are required for the survival of the five covered species.

The reason we state that flow needs "should not be limited to" instream water rights set by ODFW and OWRD is because the Oregon spotted frog was not included in the flow needs analyses, and there has been substantial additional erosion and widening of the Upper Deschutes River channel since those analyses (requiring higher flows for effective habitat). For example, the existing certificated instream flow for the Upper Deschutes between Wickiup Reservoir and the Little Deschutes River is 300cfs for each month of the year,[4] but the river channel has widened so much that the Oregon spotted frog likely now requires flows of 500-600cfs in order to restore the riparian habitat necessary to its health and survival. Also, some instream flow needs have proved to be inadequate in terms of achieving adequate stream temperature.

In addition to increasing instream flows generally, the HCP should also include conservation measures that restore the year-round natural hydrograph of the River and its tributaries. Not only do winter flows need to be increased, but summer flows are sometimes too high, to the detriment of the river channel and the five covered species (specifically the Oregon spotted frog), and should be decreased.

b. Conserved water

The HCP should require that all conserved water resulting from the HCP conservation measures be returned to the River and its tributaries. If the HCP is successful in adopting and implementing meaningful conservation measures to protect the five covered species, a key outcome will be a reduction in the amount of water diverted by the DBBC districts. The HCP must condition the issuance of an ITP on the restoration of conserved water to instream flows and a corresponding decrease in irrigation diversions of the same volume of water.

Additionally, the HCP should require that any and all water not actually put to beneficial use by the covered parties must be returned to stream flow, notwithstanding any certificated water rights held by the covered parties and their patrons. More on this issue is discussed below in "3. Other relevant plans and projects."

Not only should the HCP describe in detail and mandate the process of transferring water rights to instream water rights, but the HCP should require the DBBC districts and patrons to transfer their most senior water rights to instream flows. In this mandatory process for transfer of water rights, all conserved water resulting from implementation of the HCP should be identified as from an irrigation

---

[4] OWRD Certificate 59776, priority date 11/03/1983; *see also* Golden B., and Aylward B. 2006. Instream Flow in the Deschutes Basin: Monitoring, Status and Restoration Needs. DWA Final Report. Bend (OR): Deschutes River Conservancy. Available online: http://www.deschutesriver.org/Instream-Flow-in-the-Deschutes-Basin.pdf

district's most senior water right. This senior water right should then be transferred to instream water rights, resulting in the transfer of each district's most senior water rights. This will ensure that instream rights maintain priority in times of drought when not all users' rights can be satisfied. Such a legal mechanism will ensure that under no situation can irrigation districts be able to "call" an instream water right, as all conserved water will be attributable to the districts' most senior water rights.

Despite conserved water allegedly being left in the Deschutes River due to past conservation projects by the districts, LandWatch is concerned that the amount of water being diverted by certain districts has not actually decreased, and that districts have transferred "paper" water rights rather than meaningful water rights. When an irrigation district project, such as an HCP conservation measure project or PL-566 modernization project (see "3. Other relevant plans and projects" below), results in conserved water, that irrigation district's actual diversion should be reduced in the same amount. If only a "paper" water right is adjusted following a conserved water project and not the actual water diversion, both instream flows and downstream water users will be injured. The HCP should include enforceable measures to require the transfer of "wet" water rights to instream flows following water conservation projects.

A further conservation measure should ensure that such conserved water is committed to instream flow as far upstream as possible. Most of the species covered by this HCP and ITP require cold water for their continued survival.

The HCP must also ensure that conserved water resulting from the plan's conservation measures in any of the eight covered irrigation districts will not go to other districts to "firm up" supply. As previously stated, any and all conserved water must be transferred to instream flows through the transfer of senior district water rights. The HCP should set enforceable flow levels for each of the covered parties, should require the covered parties to meet those flow levels, and should require that water conserved in achieving those flow levels be returned instream.

LandWatch is also concerned about the disparity in irrigation efficiency among the eight irrigation districts comprising the DBBC, and potential disincentives to improving on-farm efficiencies that the HCP and ITP might provide. For example, the North Unit Irrigation District (NUID) exhibits a 93.8% water efficiency use per year, whereas the Central Oregon Irrigation District (COID) exhibits only a 42.9% water efficiency use per year.[5] If the DBBC districts' current rate of water

---

[5] Newton D., and Perle M. 2006. Irrigation District Water Efficiency Cost Analysis and Prioritization. DWA Final Report. Bend (OR): Deschutes Water Alliance. Available online: http://www.deschutesriver.org/Irrigation-District-Water-Efficiency.pdf; Barret, K. 2017. Agriculture and Irrigation in Oregon's Deschutes and Jefferson Counties. Headwaters Economics. Bozeman (MT): Headwaters Economics. Available online: https://headwaterseconomics.org/wpcontent/uploads/Deschutes_River_Basin_Agricultural_Report.pdf

We are aware that there are now numbers becoming available that reflect some increases in efficiencies of COID and other districts, but significant disparities remain.

consumption under current levels of on-farm efficiencies is provided cover from liability for take by the HCP and ITP, the districts and their member water users will have less motivation to increase on-farm efficiencies and conserve water. The HCP and ITP package of measures should include some provisions that require improvements in on-farm efficiencies as conservation measures, especially in COID and other low-efficiency districts.

In addition to requiring improvements in on-farm efficiencies, the HCP might also use flow requirements for each of the covered parties to compel on-farm efficiencies. By setting strong, mandatory, and enforceable flow levels for each of the eight irrigation districts, the districts will likely need to address improvements in on-farm efficiencies among their users whether the HCP requires them to or not.

c. Who is covered by the HCP/ITP?

The transfer of conserved water to instream water rights leads to another key policy framework the HCP must address. The DBBC districts are made up of individual water right holders. The districts also hold some water rights themselves. In past discussions, DBBC district representatives have expressed their lack of authority to control the water rights and water use of their member users. Thus, the districts claim that even if water conservation measures adopted by the districts result in decreases in their individual users' water use, the districts cannot force their users to abandon their individual certificated water rights. The districts also claim that they cannot require their patrons to adopt on-farm efficiency measures.

However, the districts want the HCP and ITP to cover both the activities of the districts themselves and of their constituent individual users. In other words, the districts want to have it both ways, in that they want their users covered from potential ESA liability, but they don't want to control the water use of their users. The HCP must deal with this conundrum appropriately by requiring the DBBC districts to exercise authority over their users. The irrigation district boards have the authority and responsibility to set policies for their districts, including policies that ensure their individual water users conserve water, and that all conserved water is transferred to instream rights. Oregon law specifically grants the districts the authority to control their users' lands, water, and irrigation systems.[6] They can set assessments in a manner to create incentives for conservation or can afford to pay patrons who voluntarily agree to use less water or lease water instream.

d. Water quality

---

[6] ORS 545.239(1) ("The [irrigation district] board also has the right to acquire, by lease, purchase, condemnation or other legal means, all lands, water, water rights, rights of way, easements and other property, including canals and works and the whole of irrigation systems or projects constructed or being constructed by private owners, necessary for the construction, use, supply, maintenance, repair and improvement of any canals and works proposed to be constructed by the board."); ORS 545.279 (1) ("The [irrigation district] board of directors may require a water user of the district: (a) To install and maintain a lockable and controllable headgate or other water control device at a point of delivery of water to the user's property; or (b) To install a measuring device at a point of delivery as necessary to assist the board in determining the amount of water to be delivered to the user.")

In addition to achieving ODFW's recommended instream flows, the HCP should condition the issuance of an ITP on the covered parties' maintenance of water quality standards, including current OWRD targets and future Total Maximum Daily Load (TMDL) standards set by the Oregon Department of Environmental Quality (ODEQ) for the Deschutes River and its tributaries. Dissolved oxygen, total dissolved gasses, pH, and water temperature are all crucial water quality indicators pertinent to the health and survival of the covered species. Substandard water quality conditions in the Deschutes River Basin are largely caused by the activities of the covered parties, including warm surface water caused by artificial storage and release, and agricultural run-off. The HCP must include conservation measures that result in improved water quality throughout the Basin.

e. Coupled groundwater recharge and spring discharge considerations

The Deschutes River and many of its tributaries are part of a complex hydrogeologic system. Surface flows in the Basin are highly dependent on interaction with natural springs and groundwater levels.[7] Likewise, groundwater and natural springs are highly dependent on recharge seepage from surface stream flow. The natural springs that feed the River and its tributaries are crucial sources of the cold, clean water that most of the covered species depend on. Indeed, the cold water refugia provided by springs in lower Whychus Creek and the Deschutes River near their confluence provide critical habitat for bull trout. Care needs to be taken that conservation measures to aid some covered species do not harm others. The HCP's environmental analysis should include extensive data and analysis on the conservation measures' environmental effect on groundwater and springs. This analysis should include both local effects of conservation measures (including piping projects) on nearby springs and groundwater tables, as well as basin-wide effects on aquifers and springs.

Piping and/or lining of canals and laterals could have a negative effect of preventing the critical groundwater recharge service these conveyances currently provide. Conversely, irrigation efficiency projects can result in beneficial water conservation that increases stream flows and improves covered species' habitat. LandWatch advocates for a compromise solution that prioritizes "bottom-up" efficiency projects. Instead of piping large, first-order irrigation diversions (i.e. canals), the HCP should prioritize the piping and pressurization of smaller, on-farm laterals that serve individual users or small groups of users. Not only are such projects more cost-effective, they allow for continued spring and groundwater recharge from the larger, first-order canals and diversions, while promoting efficient water use by individual users. Piping and pressurizing first-order diversions will only benefit those users whose laterals and on-farm irrigation systems are also pressurized. Since there are relatively few fully-pressurized users in the DBBC districts connected to first-order diversions, the negative consequences (in the form of high costs and reduced groundwater recharge) of piping large canals may not be worth the cost. Since piping projects involve choices between conveyance sections, it is important that the majority of users be addressed, and that means prioritizing laterals ahead of the first-order canals. Using this "bottom-up" approach will also be more cost-effective (see "10. Funding suggestions" below).

---

[7] Gannett, M.W., Lite, K.E., Morgan, D.S. and C.A. Collins. 2001. *Ground-Water Hydrology of the Upper Deschutes Basin, Oregon.* Water-Resources Investigations Report 00–4162. Portland, OR: USGS. 72 pp.

Another reason to go "bottom-up" is to fix carry-water operational problems sufficiently to allow incentive-based programs (transfers, leases, duty reductions) to work. These programs are cheaper than piping.

2. Current environmental conditions in the plan area

The plan area covers 10,700 square miles and thus the current environmental conditions in the plan area are many and diverse. In addition to careful analysis of existing environmental conditions and the effects of covered activities on those conditions, the HCP should also carefully consider the impacts of climate change on the basin, as well as future human population growth. See "7. Current or planned activities in the plan area, and their possible impacts to covered species" and "4. Permit duration" below.

One important issue related to current environmental conditions that the HCP should carefully consider is baseline conditions. In some cases, the covered parties have already implemented some water conversation measures prior to this HCP development process. The HCP must set a baseline of current conditions that includes conservation measures already adopted by the DBBC districts, against which additional conservation measures required by the HCP will be measured. This is in addition to the setting of proper, biologically defensible instream flows.

3. Other relevant plans and projects

a. PL-566 projects

Many of the issues discussed in these comments are also relevant to planned water conservation projects in three DBBC districts through the National Resource Conservation Service's (NRCS) PL-566 program. The HCP should coordinate its conservation measures with those PL-566 projects currently underway in the Deschutes River Basin. Central Oregon Irrigation District, Swalley Irrigation District, and Tumalo Irrigation District have each completed and published Preliminary Investigative Reports and System Improvement Plans for irrigation modernization. These projects would alter the amount of water diverted from the Deschutes River and its tributaries through the construction of canal and ditch piping projects that would reduce irrigation water lost to evaporation and seepage.

The three districts have also published On-Farm Water Conservation Reports that analyze on-farm efficiencies and potential conservation projects, including on privately owned lateral water conveyances. Projects contemplated in these reports would also alter the amount of water diverted from the Deschutes and its tributaries because individual patrons would put less water to beneficial use after on-farm efficiency is improved. On-farm efficiency measures could include fallowing unproductive fields, planting less water intensive crops, installing more efficient water application methods, and piping and/or lining private conveyances. These projects could be funded in part by grants through the NRCS's PL-566 program. Accordingly, pursuant to NEPA, the districts are currently drafting EA/EIS documents following preliminary notice and comment periods. More on the benefits of on-farm efficiency projects is discussed in "1.e. Coupled groundwater recharge and spring discharge considerations" above, and "8. Covered activities, including avoidance, minimization, and mitigation measures" below.

The effect of the PL-566 projects invokes a simple principle of water law that bears heavily on the management issues and goals of the HCP: water not used beneficially is wasted, and any legal rights to water wasted are forfeited.[8] When a district and its members conserve water following the construction of conservation and modernization projects, the amount of water collectively used in that district is reduced. This means more water is available to remain in the main channels of the Deschutes River and its tributaries. A primary conservation measure adopted by the HCP should be to condition the issuance of an irrigation district's ITP on the transfer of all rights to water conserved through PL-566 projects to instream flows. This should include water conserved through on-farm efficiencies funded and implemented through PL-566 projects. The question of who is covered by the HCP/ITP discussed in "1. Management issues and goals" above also implicates the effect of on-farm conservation projects and the districts' authority and duty to prevent waste. The DBBC districts have a duty not only to prevent waste from district-owned infrastructure (e.g. operational spills at the ends of district canals), but also waste in their individual users' infrastructure (e.g. water taken by patrons but not put to beneficial use).

b. Upper Deschutes River and Lower Deschutes River Wild and Scenic River designations

The U.S. Forest Service's Wild and Scenic River Plan and the obligation of the Forest Service to protect federal reserved water rights created at the time of designation should be addressed in the HCP. When the federal government designated sections of both the Upper and Lower Deschutes River as Wild and Scenic, it created federal reserved water rights to any unallocated water in the basin to uphold the purposes of those designations. On the Upper Deschutes, unused water from Wickiup Reservoir at the time of designation is likely subject to control by the federal government to fulfill the purposes of the Wild and Scenic designation.[9] These purposes include both scenic and recreational values.

c. Lower Deschutes River

Any proposed measures in the HCP should also be assessed in terms of potential impacts on the Lower Deschutes River where there are a number of current controversies, including a lawsuit in federal district court on water quality.

d. Basin Study Work Group (BSWG) recommendations

The U.S. Bureau of Reclamation and Deschutes River Conservancy's Basin Study Work Group (BSWG) is actively forming policy ideas to conserve water and improve instream flows in the Basin. Some of their ideas might include new or re-imagined water storage options to better serve the DBBC districts while keeping more water in stream channels. If implemented, these ideas would drastically alter the baseline conditions the HCP is meant to address. The HCP should coordinate its conservation measures with the ideas and proposals of the BSWG.

4. Permit duration

---

[8] ORS § 540.610(1) ("Beneficial use shall be the basis, the measure and the limit of all rights to the use of water in this state.")

[9] 16 USCS § 1271(3)(a); 102 Stat. 2782

The HCP and associated ITP should not exceed a period of 20 years. Too much uncertainty in future environmental conditions exists to responsibly contemplate an ITP permit duration of longer than 20 years. Additionally, the HCP should plan for and implement a detailed monitoring and evaluation program. This program should be used to make adjustments to the HCP and ITP as needed in order to continually protect covered species. If the conservation measures adopted in the HCP result in reduced populations of covered species, excessive take of species, or additional loss or degradation of covered species' habitat, then the HCP and ITP should be amended during the permit period. Such loss or degradation of covered species' habitat should include, but not be limited to, reduced flows in the Deschutes River and its tributaries, and degraded water quality including increases in water temperature. The HCP must be adaptive and flexible in order to react to changes in the environment and prevent harm to covered species. The HCP should also have teeth; it should require the covered parties to shut off their water diversions if excessive take of covered species, loss or degradation of habitat, or reduced stream flows occur, notwithstanding compliance with the HCP's initial conservation measure programs. If the conservation measures are not effective in preventing excessive take of covered species, the covered parties should not enjoy the protection of an ITP.

The HCP should also account for regional climate change projections and their effects on flows in the Deschutes River. The HCP should anticipate reduced snowpack basin-wide and resulting reduced stream flows in the Deschutes River and its tributaries. Accordingly, the HCP should not use current environmental and climate conditions as a baseline for stream flows. Instead, the HCP should anticipate these projected hydrological conditions in its analysis of the effect of proposed conservation measures on stream flows.

5. Areas or landforms that should not be covered

In general, LandWatch supports an extensive geographic area to be covered by the HCP, and does not suggest that areas be excluded. In that vein, there are certain areas and landforms we believe the HCP should specifically cover.

The HCP should ensure that all riparian habitat in the Deschutes River basin, especially formerly functional riparian habitat that existed on the upper Deschutes River basin prior to management-related seasonal flow variations, is included in the HCP and ITP permit area. The covered parties should be required to implement effective conservation measures that restore vital habitat in areas that once were, but are no longer, functional habitat. This is especially true for the Oregon spotted frog. The frog requires shallow water areas and emergent wetland vegetation. The frog's current habitat range that includes these characteristics is drastically reduced from its former and native range. The covered parties should be required to restore this native range, even though portions of this range are not within the current reduced riparian corridor of the Deschutes River and its tributaries.

Relatedly, the HCP should also analyze the effects of covered activities on areas that might not be within the covered area, and specific conservation measures that might exist outside of the plan area. For instance, possible mitigation or conservation measures required by the HCP could include projects such as wetlands restoration, floodplain restoration, and reforestation. These types of

projects might not fall within the habitat range of covered species, but might nonetheless be enforceable conservation measures on the covered parties.

6. Information and relevant data on the 5 covered species

The HCP must utilize the most current science available on the habitat and life-cycle needs of the 5 covered species. Information on the life history of the Oregon spotted frog in particular must be thoroughly provided, including the interrelated habitat needs of the Oregon spotted frog in relation to the other four covered species. The frog's habitat needs include emergent riparian wetlands, while the other four fish species require minimum stream flows and improved water quality conditions. The HCP must include conservation measures that result in habitat improvements unique to each of the covered species. For example, conservation measures for the frog might include winter releases from Crane Prairie and Wickiup Reservoirs and increased winter flows in Crescent Creek to restore riparian habitat, while conservation measures for the four fish species might include releases from the Reservoirs during other parts of the year to support critical spawning periods throughout the Basin. These potential conservations measures must be analyzed and balanced in relation to each other to prevent take of all five species to the maximum extent practicable.

7. Current or planned activities in the plan area, and their possible impacts to covered species

The Central Oregon region is projected to experience continued high population growth. The HCP should include a detailed and thorough cumulative effects analysis that anticipates municipal water use in conjunction with conserved water resulting from the HCP conservation measures. This analysis should account for continued human population growth in Central Oregon and the resulting municipal water use, as well as increased withdrawals from groundwater sources via both permitted and unpermitted wells. An accounting of the effect of unpermitted wells, which in Oregon includes single or group domestic wells where use of up to 15,000 gallons per day are allowed,[10] should be included in the HCP analysis for the wells' hydrogeologic impact on surface stream flows.

8. Covered activities, including avoidance, minimization, and mitigation measures

As discussed above, LandWatch is concerned that the DBBC wants to 'have it both ways', in that they want all actions of their individual water users that could result in take of covered species to be protected by the ITP, but at the same time the DBBC also claims to not have any authority over the water use practices of those individual users. LandWatch again stresses that the HCP should unequivocally make clear that in order for their individual members to be covered against liability for the incidental take of covered species, the DBBC districts must assert their legal authority to influence the water diversions and use of their individual members.

Enforcement of the HCP's conservation measures must also be addressed. A key element of the HCP must be a binding effect on the covered parties. If the activities of the covered parties do not mitigate take to the maximum extent practicable and instead continue to result in take of listed species beyond the rate allowed by the HCP and ITP, the HCP should include terms that reinstitute take liability. The maintenance of minimum threshold stream flows for the health and survival of

[10] ORS 537.545(1)(d)

covered species must be made certain, and must be a binding condition of the issuance of the ITP to the covered parties.

A related concern involves the cost and effectiveness of mitigation measures. The preferred method of the districts for achieving needed mitigation appears to be, as reflected in PL-566 proposals, big pipes which will cost nearly $1 billion. That is not practical or cost effective, as contrasted with piping of private laterals which was found by COID and the Farmers Conservation Alliance (FCA) to be both cheap and effective.[11] COID and FCA found that piping of COID's main canals would cost $700 million and conserve 89,500 acre-feet of water per year. The same study found that modernizing the district's private laterals would cost $36.5 million and conserve 35,284 acre-feet of water per year.[12] Piping smaller private laterals in COID achieves 39% of the water savings at only 5% of the cost of main canal piping projects.

LandWatch supports a diverse set of conservation measures that utilizes all degrees of approaches to achieve minimum instream flow requirements for the covered species. These approaches generally fall into two categories: infrastructure improvements and incentive-based programs. Infrastructure projects on private laterals are an important and cost-effective infrastructure solution, and as discussed above in "1.e. Coupled groundwater recharge and spring discharge considerations," these projects help sustain the Basin's vital surface and groundwater linkages moreso than large canal piping projects. Also important are incentive-based programs, including transfers (purchasing water rights), leasing (acquiring water rights for a particular term), and duty reduction incentives (incentivizing lower water use). These incentive-based programs should be considered in addition to conservation measures aimed at improving on-farm efficiencies, such as more efficient irrigation methods (flood to sprinkler). The HCP should impose a diverse set of both infrastructure improvements and incentive-based programs on the covered parties.

9. Monitoring and adaptive management provisions

See "4. Permit duration" above.

10. Funding suggestions

As the entities largely responsible for the historic take of covered species in the Deschutes River Basin, as well as the entities seeking protection from liability under the ESA through this HCP and ITP, the eight DBBC irrigation districts should be the primary source of funding to implement the HCP's conservation measures. Further, any funding made available to the DBBC districts through the PL-566 program should actually benefit the Deschutes River or its tributaries, and not be used to meet the districts' other obligations, including the potential "firming up" of supply to junior irrigation districts.

The HCP should be sure to consider more than just high-cost large capital projects, such as first-order canal and lateral piping projects to increase water conservation to meet flow requirements. As discussed earlier, the HCP should consider "bottom-up" water conservation projects where smaller

[11] Black Rock Consulting & Farmers Conservation Alliance. 2017. Central Oregon Irrigation District On-Farm Water Conservation Report. Available from COID General Manager.
[12] *Id*. at Table 4, page 21.

laterals and diversions are piped and pressurized. The HCP should also consider market-based solutions where some irrigation district patrons can voluntarily reduce their water use for a small cost, leading to low-cost transfer of irrigation water rights to instream water rights.

11. Alternatives

As stated above, LandWatch looks forward to a wide range of alternatives, included market-oriented solutions, piping of private laterals, storage, on-farm efficiencies, and some main canal piping.

LandWatch is hopeful that the HCP will require the covered parties to utilize all means at their disposal, including a diverse set of conservation measures imposed on both the districts and their individual water users, to achieve minimum instream flows for the health and survival of the covered species.

Thank you for your consideration of these comments and for taking a hard look at the potential benefits and consequences of the issuance of an Incidental Take Permit covering the entire Deschutes River Basin. Please keep us updated as to HCP progress, and inform us of any further opportunities for comment.

Sincerely,

Rory Isbell
Central Oregon LandWatch

50 SW Bond St., Ste. 4 | Bend, OR 97702
Phone: (541) 647-2930
www.centraloregonlandwatch.org

Coalition for the Deschutes
PO Box 1589
Bend, OR 97709

September 21st, 2017

Attn: Peter Lickwar
Re: Deschutes River Basin HCP – draft EIS

The Coalition for the Deschutes (Coalition) respectfully offers these comments relative to the Habitat Conservation Plan (HCP) proposed by the Deschutes Basin Board of Control. The Coalition exists to be a voice for the Deschutes River. We have a singular focus on restoring the Deschutes and its tributaries to healthy ecological conditions and with more natural hydrographs.

In our view, the most important outcome of the HCP and related processes is that the Deschutes River and tributaries once again be robust rivers with healthy aquatic and riparian ecosystems. We care about and seek provisions for every life stage of the Oregon spotted frog (OSF) and the fish species included in the HCP.

We also recognize the reality of the Deschutes River after more than a century of diversion for irrigation, and the ecological, sociological, and economic changes that have taken place in Central Oregon throughout the decades. We understand that we cannot turn back the clock to former environmental or cultural conditions. We value the contribution of local agriculture to our community and appreciate that many people depend on water from the river for their livelihoods. It is within this greater context that we submit our comments.

Our concerns, questions, and requested elements for analysis are as follows:

1. The Coalition is concerned about the aquatic life of the Deschutes River, including the listed species, but also extended to other wildlife dependent on the river including, for example, macroinvertebrates, non-listed native fish, otters, beavers, and bird species.
2. Many of our supporters have an interest in fishing and thus are concerned that the life history of native species be addressed and met in the HCP.
3. Many of our supporters engage in recreational activities on the river but are also concerned about impacts caused by river-based recreation. The HCP should take into account the impacts of river recreation as flow regimes are altered.

4. The HCP should use the most up-to-date climate models, GSFLOW, and Riverware for evaluating flow assumptions.
5. Impacts to groundwater should be analyzed and incorporated into the HCP.
6. Restoration of the physical habitat should be part of the HCP.
7. Summer flows must be reduced and winter flows increased to meet all of the life history needs of the OSF and listed fish species and to improve habitat conditions. We feel that a reasonable target for winter flows is 500 - 600 cfs. Summer flows also need to be reduced to approximate a more natural hydrograph.
8. The HCP should ensure that the timing of reservoir releases relates to and supports the life history of the OSF as well as listed and native fish species.
9. Off-channel habitat and its role in the OSF life history should be analyzed in the HCP.
10. The HCP should include OSF populations found in the Deschutes River reach that is designated State Scenic Waterway between the Bend UGB and the Central Oregon Canal.
11. A suitable time frame for the permit is in the 30 – 40 year range.
12. The HCP should weigh the benefits of a fixed approach versus a variable-flow approach to reach flow targets. If a variable-flow approach is used (with flow levels tied to the current water year), a trigger should be set that establishes protected minimum instream flows that support and sustain habitat required by the OSF and listed fish for each stage of their life histories.
13. The HCP should include methods for tracking and removing bullfrogs.
14. The HCP should include a plan for tracking and removing reed canarygrass.
15. The HCP should consider the use of citizen science and citizen stewardship programs in the future.
16. The Coalition supports piping canals and laterals for the purpose of conserving water and restoring flows to the Deschutes River. The water conserved from the projects should stay in the river so that the river and associated riparian ecosystems can be restored.
17. The impacts of a hydropower plant being installed on Wickiup Dam–especially the possibility of invasive fish that prey on OSF being released from the reservoir into the river below the dam–should be included in the study.
18. The Coalition does not support the installation of in-stream hydro in Wickiup Dam unless screening adequate to keep non-native species out of the river below the dam is installed.
19. The Coalition supports small-head hydro in piped canals with the caveat that hydro energy production is always secondary to irrigation and the needs of the river. The river should have permanent senior instream water rights that are not subject to legal petition to be reduced for the benefit of hydro or irrigation during dry years.
20. Hydro revenue should be used for river restoration or short term leasing needs.
21. Existing hydro facilities should be analyzed to ensure that extra water isn't being diverted to meet hydro demand or capacity.

22. On-farm deliveries should be metered and measured to ensure that extra water isn't diverted for hydro.
23. All piping projects should be designed to meet delivery needs. No extra diversion for hydro may be engineered or permitted.
24. The Coalition supports the implementation of on-farm efficiencies and the reduction of duty as less water is needed to meet crop needs.
25. The Coalition supports the use of market tools, instream leasing, fallowing land, tiered pricing, and other incentives and options for conserving water.
26. The Coalition supports making Oregon Department of Fish and Wildlife's instream rights senior and permanent, and not subject to petition in drought years.
27. Question: Are the existing gaging stations sufficient for monitoring all diversions and deliveries? Are more needed?
28. Water quality at Crane Prairie and Crescent Lake and the downstream impacts should be studied and mitigated for. These include temperature, water turbidity, pH values, dissolved oxygen, and algal blooms.
29. Nutrient loading from agriculture should be studied and minimized.

In closing, we support the applicants' efforts to pursue water conservation projects and implement water conservation policies in a timely manner so that water with permanent senior rights can be left in the river for the benefit of fish, wildlife, and other user groups and parties affected by the current unnatural flow regime.

Sincerely,

Gail Snyder
Co-founder, Executive Director, Board Member
On behalf of the Coalition Board of Directors and supporters

Crook County

300 NE 3rd Street • Prineville, Oregon 97754
Phone (541) 416-6555 • FAX (541) 416-3891

September 20, 2017

VIA EMAIL: peter_lickwar@fws.gov
U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

RE: Deschutes River Basin HCP-draft EIS

The Crook County Court submits this comment letter to the U.S. Fish and Wildlife Service pursuant to the Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (82 Fed. Reg. 34326, July 24, 2017).

Crook County is located in the geographic center of Oregon, and the County's economy is driven by agriculture, construction, forest products, livestock, manufacturing, recreation and tourism. With a population of nearly 27,000, the Crooked River serves a vital role in our citizens' everyday lives, as the Crooked River is vital to every sector of our local and regional economy. The County Court knows well that the use and proper management of the water resources made available by Prineville Reservoir, the Crooked River, and its tributaries not only form the basis of our rich history, but are critical to the County's future and its success. We appreciate the opportunity to provide comments on these significant issues.

To begin with, Crook County Court would like to thank the U.S. Fish and Wildlife Service for conducting the in-person scoping meetings last month for the draft Environmental Impact Statement (EIS) for the Deschutes Basin Habitat Conservation Plan (HCP). The Service's presentations were very thorough and informative and, with four separate meetings, attending at least one of the meetings was easy for everyone. We also appreciate that the public has been provided an opportunity to submit written comments in furtherance of the ongoing scoping effort. With all the time and hard work to get to this point, the County looks forward to seeing the process move forward as quickly as possible.

Second, Crook County Court would like to underscore the potential for the conservation actions proposed in the Deschutes Basin HCP to have significant economic consequences to irrigators in particular and the Deschutes Basin economy more generally. With regard to the Crooked River conservation measures proposed in the HCP, potential economic consequences reach not only irrigators in Ochoco Irrigation District and residents in the City of Prineville, which are both HCP applicants, but the consequences may also reach non-district irrigators, Prineville

Reservoir recreationists, as well as the many other economic development efforts and activities taking place in our County today, and that will take place in the years ahead.

With these potential consequences in mind, Crook County Court requests that the U.S. Fish and Wildlife Service do a thorough and comprehensive evaluation of the socioeconomic impacts of the proposed conservation measures as part of its work to prepare the EIS. Given recent and well-intentioned efforts to streamline federal agency compliance with the National Environmental Policy Act, the County would like to ensure that the socioeconomic impact analysis is not lost or otherwise minimized as part of the overall effort around the Deschutes Basin HCP. We believe that the County is uniquely situated to provide information and insights in furtherance of the required socioeconomic impact analysis as part of the EIS, and we look forward to providing input to the Service when and where appropriate.

Thank you again for all your efforts to date, and for consideration of these comments.

Sincerely,

CROOK COUNTY COURT

Seth Crawford
County Judge

Jerry Brummer
County Commissioner

Brian Barney
County Commissioner

CROOK - WHEELER COUNTY *Farm Bureau*
498 S.E. Lynn Blvd. Prineville, Or. 97754

September 21, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, OR 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

Crook-Wheeler County Farm Bureau submits the following comments on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (82 Fed. Reg. 34326, July 24, 2017).

Crook-Wheeler County Farm Bureau (CWCFB) represents farmers and ranchers throughout Crook and Wheeler counties, several of whom have irrigated land within the boundaries of the project area. Irrigated agriculture is critical to Crook and Wheeler counties, helping contribute to the $42 million dollars agriculture put into the local economy in Crook County and $14 million in Wheeler County.

Irrigation management deeply impacts our counties. Any alterations in management, particularly reductions in water availability, can have catastrophic impacts on our agricultural economy and local communities. To that end, we strongly encourage USFWS to consider the economic impacts of changes in management or irrigation availability caused by the HCP. Potential economic impacts reach not only local farmers, but also the businesses and community that rely on agriculture for their economic function. Previous studies have shown that a 10% reduction in water deliveries to Central Oregon irrigation districts could result in over $7 million in net losses to the region. Clearly, water management decisions made in the HCP can have a significant economic impact on farmers and ranchers throughout the region.

Given the potential for serious economic impacts from management decisions made through the HCP, we think it is critical that USFWS have an accurate picture of the socioeconomic impacts of any proposed changes in water use in the basin.

We look forward to providing input to USFWS when and where additional information is needed. Thank you for the opportunity to provide comments. Please do not hesitate to contact our board if you have any questions.

Sincerely,

DHB

Doug Breese
President, Crook-Wheeler County Farm Bureau

Tim Deboodt
Vice President, Crook-Wheeler County Farm Bureau

Zach Flegel
Board Member/Young Farmer-Rancher Representative

Bryan Iverson
Board Member

Wade Flegel
Board Member

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Upper Deschutes River Coalition

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:21 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Monte Dammarell** [redacted]>
Date: Wed, Sep 20, 2017 at 2:59 PM
Subject: Upper Deschutes River Coalition
To: Peter_Lickwar@fws.gov

Good afternoon Peter,
As the Upper Deschutes River Coalition Chairperson I'm constantly getting feedback on the beautiful Deschutes River which traverses through our Southern Deschutes County neighborhoods. The number one question/concern: what is happening to our river?? Fish and invertebrates are dying, river banks are washing away, flooding is occurring and nobody seems to care. These are comments area residents express. The Water Basin Study is entering the 3rd year, I believe, and resolution to the river issue does not appear any closer. We all realize the water flows are controlled by the irrigators. We also realize the Wild and Scenic Deschutes River will never return to it's natural state. Western water law pretty well sealed the river's fate many years ago. All the Upper Deschutes River residents are seeking is compromise!! Since we moved into the are in 2005 the river flow fluctuations have been more dramatic and for more prolonged periods. The Bend Bulletin has recently published 2 stories about the Upper Deschutes River. I was quoted in the first article and made the seemingly outlandish comparison of the Upper Deschutes River to the Mississippi River. The comparison might be somewhat exaggerated but my point is the river boundaries are widening every year. The river banks dry out during the winter months, the dam spigot is activated in the spring. The result is the river chewing up the banks as if it has not eaten in months. The soil being eaten is washed into uncharted areas creating new channels and adding to the choked Mirror Pond in Bend (where do Bend residents think the sediment comes from). According to some river "experts" the recent flooding was related to increased vegetation growing. Maybe that is true but where is this new vegetation growing? How about where the river is depositing the removed soil in new areas.
The Upper Deschutes River is a valuable asset. If not properly managed and maintained this asset will become nothing more than a toilet being flushed. It is time all parties with vested interest in the Deschutes River come to the table and realize the clock is ticking on an incredibly beautiful resource. Quit the territorial fighting and find middle ground!!

Respectfully

Monte Dammarell
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Oregon

Kate Brown, Governor

Department of Environmental Quality
Eastern Region Bend Office
475 NE Bellevue Drive, Suite 110
Bend, OR 97701
(541) 388-6146
FAX (541) 388-8283
TTY 711

Date: September 22, 2917

To: Peter Lickwar

From: Bonnie Lamb

Re: Deschutes River Basin HCP Scoping

DEQ would like to offer the following comments for your consideration as the EIS and draft HCP are further developed. I provided extensive comments during the period 2012-2014 when I was involved in stakeholder and technical working groups. I trust that these earlier comments will be reviewed as well. I provided specific comment letters on Tasks 3-6 (June 28, 2012) and on Chapter 5 (November 20, 2014). In addition, I submitted "track changes" and/or email comments on many of the different Tasks and Chapters, including: Table A-2, Study 15 (Phases 1 and 2), Study 2 (Phases 1- 3), and Studies 3-6 (Phase 2). I have attempted to summarize some of these comments here, but not with the level of detail that I provided earlier. I can provide you with copies of my earlier comments if you do not have them in your files.

1. Most of the water bodies identified as part of the Plan Area are included on Oregon's 303(d) list of impaired water bodies for one or more of the following parameters: temperature, dissolved oxygen, pH, chlorophyll-*a*, turbidity, sedimentation, aquatic weeds/algae, *E. coli*, total dissolved gas, biological criteria, flow modification, habitat modification. Resident fish and aquatic life are identified as beneficial uses impacted by all of these parameters, with the exception of *E. coli* and aquatic weeds/algae.

   We have not completed Total Maximum Daily Loads, which would identify causes of the impairments, for any of these listings. However, based on preliminary modeling done in the Deschutes Basin as well as in other parts of the state, it is very likely that some of the covered activities could contribute to the impairments. The EIS and HCP should address the effects of the covered activities on known water quality impairments and indicate how proposed conservation measures will contribute to attainment of water quality standards. While not exhaustive, the following list describes some of the potential impacts of covered activities:

   - Irrigation return flows can contribute pollutants, including heat, nutrients, pathogens (including fish pathogens such as *C. shasta)*, sediments/turbidity, and pesticides, to water bodies which support listed species. These pollutants can in turn affect in-stream temperature, pH, dissolved oxygen, growth of aquatic plants or algae, and fish health.
   - Diversion of water and reduced flows below the point(s) of diversion can contribute to a number of water quality impairments, including temperature, dissolved oxygen, pH, chlorophyll-a, growth of aquatic weeds or algae, and biological criteria.
   - The storage of water in reservoirs can affect the quality of the water. By impounding water, conditions can be created which lead to the growth of aquatic weeds and algae and/or contribute to water quality impairments for dissolved oxygen, pH or temperature. Algal blooms have been documented in most of the reservoirs covered by the Plan. In addition, storage of water during the non-irrigation season results in reduced flows below the reservoir, which can expose stream banks to freeze-thaw processes.

- The timing and release of water from reservoirs can contribute to water quality impairments downstream in a number of ways: (1) impairments in the reservoirs (or constituents that contribute to impairment, such as nutrients) can be passed downstream; (2) increased flows below reservoirs early in the irrigation season can transport sediment downstream from stream banks which were exposed to freeze-thaw processes during the winter; (3) below Wickiup and Prineville Reservoirs, studies have demonstrated elevated total dissolved gas levels (exceeding state standards) at high flow release levels and ODFW has documented the presence of bubble-gas disease in fish in the Crooked River below Prineville Reservoir.
- The activities of the City of Prineville have the potential to affect water quality in Ochoco Creek and Crooked River through possible reductions in stream flow (diversions and groundwater pumping) and discharge of treated wastewater to the Crooked River.

2. During the earlier development of the HCP, the Bureau of Reclamation was contracted to do a review of existing water quality data in the Deschutes Basin (Phase 1 for Studies 3-6, dated March 2013). I reviewed that document and provided a number of comments. I would encourage you to look at these comments, as I am not going to repeat them all here. While the report provided a good start at compiling existing data, it missed quite a bit of data that I knew about. And there has been a quite a bit more data collected since that time, including some TMDL studies in the Upper and Little Deschutes Subbasins and toxics monitoring throughout the basin. In addition, DEQ's Pesticide Stewardship Program began a pilot monitoring program in the Agency Plains area in 2014. Data from this effort could inform the discussion of water quality associated with return flows. Let me know if you would like assistance accessing any of DEQ's data.
3. While I recognize the importance of developing conservation measures to protect the Oregon spotted frog, I would encourage the USFWS to pay equal attention to the habitat and water quality needs of the listed and non-listed fish species that will be covered by this HCP in the middle Deschutes reach above Lake Billy Chinook. While these fish cannot pass up the Deschutes River beyond Big Falls, the flow and water quality impacts of water management activities in and upstream of Bend can be seen in the Deschutes River downstream of Big Falls. Restoring flows in the middle Deschutes is also important for protecting non-listed resident aquatic species.
4. Groundwater discharge through springs along lower Whychus Creek, lower Crooked River and the lower portion of the middle Deschutes River provides a significant source of water to these reaches. In most cases this water provides important cold water habitat for aquatic species. Given the relationship between leaking canals and groundwater discharge above Lake Billy Chinook, it is likely that conservation measures (such as piping canals) will reduce spring flow. The EIS and HCP should model these impacts and develop appropriate mitigation measures, recognizing that leaving an additional 5 cfs of water instream at the point of diversion does not have the same water quality benefits as 5 cfs of spring water.
5. In September, 2014, Conservation Measures were presented to the HCP Working Group in a draft Chapter 5. In this draft, it was unclear what the biological or ecological goals of the proposed measures were. As Conservation Measures are developed through this current EIS/HCP effort, they should be developed to ensure that the biological needs of the covered species are met. This could include quantifying the amount of habitat provided and/or improvements in water quality.
6. Given the complexity of water management in the Deschutes Basin and the limitations of models, it will be very important to have an adequate monitoring program in place to evaluate the impacts of the covered activities and proposed conservation measures over time. For water quality, DEQ maintains a network of long-term ambient monitoring stations in the Deschutes Basin. While this information will be helpful, there are not enough of these stations and they are not monitored frequently enough to be used in understanding the effects of activities covered under the HCP. As part of their monitoring responsibilities under the HCP, the applicants should commit to contributing to the development of a more comprehensive water quality monitoring program in the Plan Area. A number of entities have expressed interest in having

such a monitoring program in place and DEQ will be glad to assist with development of a monitoring strategy.

7. While likely outside of the scope of the HCP, DEQ staff wanted to identify two other potentially related water quality issues.
    - Water quality standards and beneficial uses apply to the canals. Irrigation canals are subject to NPDES permits.
    - The covered activities have the potential to affect local drinking water sources. For reference, the only public water system using surface water within the Plan Area is the City of Bend which has an intake on Bridge Creek. (City of Sisters has an intake on Pole Creek in the Whychus Creek Watershed, however the source is currently listed as inactive/emergency.) There are ~250 federally recognized public water systems using groundwater in the Plan Area. At least 12 community water systems, including the Cities of Bend and Prineville as well as Deschutes Valley Water District, have wells within 500 feet of the covered lands. Wells within 500 feet of surface water are typically flagged by the Oregon Health Authority for potential hydraulic connection to the surface water body. Additional information on public water supply locations can be provided if needed.

As you are well aware, many of the water management changes that will be considered in the EIS/HCP process are also being evaluated as part of the on-going Deschutes Basin Study. I would encourage you to utilize the results of the Basin Study to help inform the Deschutes River Basin HCP.

Please feel free to contact me if you have any questions about these comments. I can be reached at lamb.bonnie@deq.state.or.us or (541) 633-2027. Thank you for the opportunity to provide comments.

September 18, 2017

Peter Lickwar
U.S. Fish and Wildlife Service
63095 Deschutes Market Road
Bend, OR 97701-9875

Dear Mr. Lickwar,

The Deschutes River Alliance (DRA) submits these comments regarding the scope of the draft Environmental Impact Statement (EIS) analysis being performed pursuant to the National Environmental Policy Act (NEPA) to evaluate the potential impacts on the human environment caused by alternatives to the Deschutes River Basin Habitat Conservation Plan (HCP). We appreciate the opportunity to participate at this stage of the NEPA process.

The DRA is a science-based advocacy organization seeking collaborative solutions to basin-wide threats to the health of the Deschutes River and its tributaries. We advocate for water quality, a healthy ecosystem, and for the establishment and protection of robust populations of resident and anadromous trout throughout the river's entire watershed. As such, the environmental impacts of any proposed HCP for the Deschutes Basin are of critical interest to our supporters and Board of Directors. The DRA will be closely monitoring the NEPA process for the Deschutes Basin HCP, and we look forward to reading the Draft EIS and providing further input in the months and years ahead.

With regard to the scope of the Draft EIS, the DRA provides the following two comments:

1. Process Deficiencies

As an initial matter, it is extremely concerning to the DRA that the Draft Deschutes Basin HCP has not to this point been released to the public. One of the purposes of the NEPA scoping process is to identify reasonable alternatives to the proposed action to be considered in an EIS. In this case, the proposed action is the Deschutes Basin HCP, developed by the eight irrigation

districts and the city of Prineville, in support of these applicants' request for an Incidental Take Permit (ITP) under section 10 of the Endangered Species Act (ESA).

Obviously, it is not possible for the public to identify and suggest proposed "reasonable alternatives" to the HCP, when the public has not yet been permitted to read the HCP, and has no sense of what is included in the document. The Draft HCP should be released to the public immediately, and the scoping period should be extended to provide adequate time for the public to identify reasonable alternatives to the HCP for inclusion in the Draft EIS.

2. Water Quality

It is imperative that the Draft EIS consider impacts to water quality in the Deschutes Basin. This should include impacts not only to the upper Deschutes River and its tributaries, but also impacts to the river's lower 100 miles, which is a federally designated Wild and Scenic River and a treasured recreation destination.

The applicants' actions in the upper Deschutes Basin, including actions taken pursuant to any HCP, will have a direct impact on water quality above and below the Pelton Round Butte Hydroelectric Project—a three-dam complex located approximately 100 river miles from the Deschutes River's confluence with the Columbia River. Since 2010, when Project owners began operating a Selective Water Withdrawal tower above Round Butte Dam, surface water releases from Lake Billy Chinook into the lower Deschutes River have had a significant negative impact on water quality below the dams. These water quality impacts have affected numerous aquatic species, including ESA-listed bull trout and steelhead, as well as other species of concern.

These surface water releases are comprised primarily of water originating in the Crooked River and upper Deschutes River basins. It is critical, then, that any HCP take these important water quality-related considerations into account. The Draft EIS must take a close look at how water quality above and below the Pelton Round Butte Project will be impacted by management changes made pursuant to the HCP. In addition, the Draft EIS must examine how these water quality impacts will affect resident and anadromous fish, birds, and other wildlife throughout the Deschutes Basin.

Again, thank you for accepting and considering these comments. We look forward to your response.

Sincerely,

Jonah Sandford
Executive Director/Staff Attorney
Deschutes River Alliance
jonah@deschutesriveralliance.org

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Support for the Deschutes and its creatures

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:19 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Kathy Dimont** <[redacted]>
Date: Wed, Sep 20, 2017 at 9:16 AM
Subject: Support for the Deschutes and its creatures
To: peter_lickwar@fws.gov

Any steps taken to return the Deschutes to its more natural state, with flows left to nature, would make sense to me. Obviously we can't ignore water rights and the hard working people who depend on the river for their livelihoods, but erring on the side of the wild will always have my strong support.

I wish you well in this effort.

Kathy Dimont
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP, Scoping stage, from Tim Dragila

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:16 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Timothy Dragila** [redacted]
Date: Thu, Aug 17, 2017 at 12:08 PM
Subject: Deschutes River Basin HCP, Scoping stage, from Tim Dragila
To: peter_lickwar@fws.gov

We listened to an excellent presentation on Tuesday evening, August 15, by Bridget Moran of the U.S. Fish and Wildlife Service and her colleagues on the scoping stage of the Deschutes River Basin Habitat Conservation Plan.

My question is:

> The planned mitigation efforts in the HCP primarily involve channeling irrigation water into large pipes to lessen wastage due to water seeping into the ground and evaporation in the current system of open canals.
>
> Does computer modeling suggest that these efforts will result in sufficient water for irrigation while providing for habitat protection for the listed species in the HCP?

Tim Dragila

[redacted]

Bend, OR 97701

[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes HCP draft scoping period comments

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:22 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Mike and Linda Eisele** [redacted]
Date: Thu, Sep 21, 2017 at 4:07 PM
Subject: Deschutes HCP draft scoping period comments
To: "peter_lickwar@fws.gov" <peter_lickwar@fws.gov>

To: Peter Lickwar

Peter_lickwar@fws.gov

Re: Deschutes HCP draft scoping period comments

Summary:

I support the comprehensive Deschutes Basin HCP draft. It is crucial to the health of all the listed species, the entire Deschutes Basin ecology, and central Oregon's economy.

The Deschutes River basin fish and wildlife ecology is in danger. It cannot recover without minimum river flows and maximum rate of change of flows. Without the HCP, mudholes and temporary floods will persist and the listed species will disappear. The HCP, working with the irrigation districts, is essential for the five proposed species in the HCP. And those species are essential for the rest of the ecology: the birds of prey, the river otters, the deer, and other large animals. The healthy ecology of the Deschutes River basin is essential for the economy of central Oregon, which depends on tourism and services for outdoor recreation as its largest industry and main growth driver (from economic studies by Travel Oregon).

No regular water means no frogs or fish. No fish means no fishermen. No fishermen means no jobs in central Oregon.

I served on the Upper Deschutes Advisory Group to the Oregon Parks and Recreation District in 2016 and 2017. The Upper Deschutes River (from Bend south to the reservoirs) has both a state and Federal Wild and Scenic Waterway designation. OPRD manages the Wild and Scenic implementation with a set of seven Values to be achieved. Protection of Wildlife, including fish habitat, and Recreation opportunities are defined as the two most important Values. OPRD

administers river development and use rules to support those Values. Unfortunately, OPRD has no metrics, measurements, or expertise to know if the Wildlife Value is being achieved, and no jurisdiction for the water flows in the Upper Deschutes.

Fortunately, USFWS has the science, the expertise, the jurisdiction, and the opportunity with the HCP to safeguard this amazing river resource for Oregon now and for future generations. In practical terms, there is no Deschutes Wild and Scenic Waterway without this HCP.

Management issues and goals: Please include measureable metrics that address the health of each of the five species, with specifics to prime locations within the basin.

Water flow goals and measurement is crucial to success of the HCP. The quality of water is as critical as the regular flows of water. Regular measurement of water for clarity, contamination, and other changes is needed.

Current environmental conditions: The recreation fishermen and professional guides in the Deschutes basin are consistent in their feedback. The fish species in the HCP are in serious decline. This area, in our lifetime, was once prime fishing geography.

Spotted frog habitat is already very limited and threatened by human development in areas like Sun River. Please include all five proposed species in the HCP.

Funding suggestions: Similar to a carbon credit market, perhaps Prineville and the irrigation districts and/or individuals within the districts can earn water reduction credits that can be sold or traded between irrigation districts or to third party investors. Credits would be earned as water usage reduction projects are completed.

Because of the synergy of the HCP with OPRD's Wild and Scenic River program, perhaps an extra use fee for central Oregon's state parks and/or US Forest Service facilities in Central Oregon could be assessed and designated for HCP projects.

Thank you for this important work. Please continue to implement the comprehensive HCP as proposed.

Michael Eisele

[redacted]

[redacted]

[redacted]

[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL REVIEW
AND ASSESSMENT

September 21, 2017

Peter Lickwar
U.S. Fish and Wildlife Service
Bend Field Office
63095 Deschutes Market Road
Bend, OR 97701-9857

Dear Mr. Lickwar:

The EPA has reviewed the July 24, 2017 Federal Register Notice of Intent from the US Fish and Wildlife Service to prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (EPA Project Number 17-0034-FWS). Our comments are in accordance with EPA responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. Section 309 specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major federal actions.

The Deschutes River Basin HCP is being prepared in response to a request for incidental take permits under the Endangered Species Act. ITPs under the ESA would authorize the incidental take of federally-listed species caused by permitted activities (i.e., the storage, release, diversion and return of irrigation water). Species proposed for inclusion in the HCP include three federally-listed species (Oregon spotted frog, bull trout, and steelhead) and two currently unlisted species that have the potential to become listed during the life of the HCP (sockeye salmon and spring Chinook salmon). The potential applicants for the ITPs include the Irrigation Districts that comprise the Deschutes Basin Board of Control: the Arnold Irrigation District, Central Oregon Irrigation District, North Unit Irrigation District, Ochoco Irrigation District, Swalley Irrigation District, Three Sisters Irrigation District, Tumalo Irrigation District, the Lone Pine Irrigation District, and the City of Prineville.

According to the NOI, the EIS will evaluate a no action alternative; the proposed action, which would include the issuance of take authorizations as described in the proposed HCP; and a range of additional reasonable alternatives. As the EIS is developed, we encourage the Service to develop materials (especially web-based materials) to help the public and decision-makers understand and engage in dialogue about these alternatives. We also stress the importance of structuring the alternatives analysis so that components of individual alternatives can be extracted or incorporated as appropriate in the Final EIS. It should be possible for a hybrid alternative to emerge through the planning process, so long as it is within the spectrum of the alternatives analyzed in the Draft EIS.

We commend the parties to the HCP for their recognition of the value and importance of aquatic habitats in the Deschutes Basin and for their proactive efforts to conserve them. We also appreciate the DBBC's support, along with that of the Bureau of Reclamation, of the Deschutes Basin Study Work Group. This work will be foundational to a robust analysis of HCP alternatives through the NEPA process.

Because the available scoping materials do not lay out specific alternative directions, it is difficult to offer detailed comments or suggestions on how alternatives might be modified. Our attached comments do, however, make suggestions related to providing an adequate range of alternatives and highlight key issues that we recommend be addressed as the EIS is developed. We appreciate the opportunity to participate early in the planning process. If you would like to discuss these comments, please contact me at (503) 326-2859 or by electronic mail at kubo.teresa@epa.gov.

Sincerely,

Teresa Kubo
Office of Environmental Review and Assessment

Enclosure:

1. EPA Region 10 Scoping Comments on the NOI to Prepare a Draft Environmental Impact Statement for the Deschutes River Basin Habitat Conservation Plan

EPA Region 10 Scoping Comments on the NOI to Prepare a Draft Environmental Impact Statement for the Deschutes River Basin Habitat Conservation Plan (HCP)
September 21, 2017

Range of Alternatives

EISs should include a range of alternatives, which meet the stated purpose and need, goals and objectives, and responds to issues identified during the scoping process. The alternatives analysis should compare alternatives with respect to how well they respond to the stated purpose and need, goals and objectives, and scoping issues.

The Council on Environmental Quality recommends that all reasonable alternatives be considered, even if some of them could be outside the capability of the applicant or the jurisdiction of the agency preparing the EIS.[1]

In the interest of providing an adequate range of alternatives, we recommend the inclusion of a conservation alternative, as well as an alternative that would emphasize meeting municipal and agricultural needs. We recommend the conservation alternative broadly seek to maximize habitat protection and restoration and include the following considerations:

- Stream flows in the Upper Deschutes that mimic the natural hydrograph of the river. In the Upper Deschutes that would mean higher winter flows and lower summer flows. This would require flow modification at Wickiup, Crane Prairie and Crescent reservoirs, as well as conservation actions by the relevant irrigation districts;
- Increasing Deschutes River flows in the Middle Deschutes from the current protected flow of 134 cfs to the instream flow target of 250 cfs and increasing stream flow in Tumalo Creek from the current protected flow of 17.2 cfs to 54 cfs. Multiple lines of evidence show reduced stream temperatures at higher stream flows would be achieved through stream flow restoration in the middle Deschutes River and Tumalo Creek;[2]
- Required minimum flows in the Crooked River (as determined by the relevant regulatory agencies) during periods of drought;
- The inclusion of shaping flows during reservoir storage season (March 1 – April 15) to improve Oregon Spotted Frog (OSF) breeding conditions and limit the potential for egg desiccation; and,
- Opportunities for habitat restoration (consider opportunities on Forest Service land such as Ryan Ranch; areas around Wickiup Reservoir that could be physically modified to improve or create habitat; opportunities on private land; opportunities on BLM land, such as the Casey Tract on the Little Deschutes),

Water Quality

Water quality degradation is one of EPA's primary concerns. We recommend that the EIS disclose which waters may be impacted by the proposed HCP, the nature of the potential impacts, and the specific pollutants likely to impact those waters. It should also report those waterbodies potentially affected by the project that are listed on the State's most current EPA-approved 303(d) list of impaired waters. The EIS should describe any existing restoration and enhancement efforts for those waters, and

---

[1] http://ceq.hss.doe.gov/NEPA/regs/40/1-10.HTM#2

[2] http://www.upperdeschuteswatershedcouncil.org/wp-content/uploads/2016/12/2015-Middle-Deschutes-River-Instream-Flow-Restoration-and-Temperature-Response_FINAL.pdf

how the project will coordinate with Oregon DEQ as they develop TMDLs for the rivers and streams in the Upper Deschutes and Little Deschutes sub-basins. The EIS should also describe on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of water quality within impaired waters. The state designates, and EPA approves, the applicable beneficial uses and associated criteria for protecting surface waters. These, combined with anti-degradation provisions, are considered the state water quality standards. The anti-degradation provision of the CWA and State of Oregon WQS apply to those waterbodies where WQS are currently being met. This provision prohibits degrading the water quality unless a robust analysis shows that important economic and social development necessitates some degradation. The EIS evaluation should determine and discuss how the antidegradation provisions of the CWA and Oregon WQS would be met. See 40 CFR 131, as well as the State of Oregon WQS, for more information regarding beneficial uses, water quality criteria, and antidegradation policies and procedures.

Align Conservation Efforts with Current Landscape-Level Strategies
We support and encourage partnerships among federal, state, local, and non-governmental entities to strategically and collaboratively conserve, restore, and maintain aquatic and wetland habitat. We recommend that strategic efforts include the following:

- Identify and prioritize the largest, most intact habitat patches;
- Identify and establish corridors/connections between and among habitat patches;
- Provide redundancy of habitats in the landscape;
- Identify and protect important refugia and biodiversity hotspots for wetland dependent plant and animal species;
- Restore degraded habitats, particularly those with the greatest potential for restoration and for meeting landscape-level conservation strategies;
- Seek to complement, augment, and connect with the important conservation work occurring within the planning area (such as at Ryan Ranch);
- Seek management agreements with landowners of working lands that contain remnant and/or high quality habitat; and,
- Provide incentives to landowners to retain and maintain wetland habitats and to have compatible land uses.

Active Management to Restore and Maintain Aquatic Habitats in the Deschutes Basin.
Management activities, such as aquatic habitat and wetland restoration, the construction of cattle exclosure fencing, and the removal and control of invasive species will be an important component of species protection and recovery. These actions need to be legal, feasible with respect to cost/funding and logistics, and reasonably acceptable to jurisdictions, landowners, and neighbors. We support the inclusion of active management, as proposed above, among the covered activities.

Climate Considerations
The EIS should disclose the extent to which the HCP and potential issuance of an ITP would incorporate consideration of future climate. It is projected that the Pacific Northwest could see rising stream temperatures, which are expected to reduce cold-water fisheries habitat; changes in the timing and length of seasons, which would influence changes in the ranges, phenology, community composition, biotic interactions and behavior of plants, insects, and animals (including predatory species); and increased winter rainfall, which will be accompanied by a reduction in snow pack, earlier snowmelts,

and increased runoff. This will affect hydrology and reservoir operation, as well as the potential timing and intensity of wildfire. The EIS should discuss the relevant potential effects of predicted future climate scenarios on the proposed actions, and how the HCP and ITP(s) would incorporate mitigation, adaptation, and education measures.

Monitoring and Adaptive Management

Monitoring and adaptive management will be critical to the success of the HCP. We recommend that adaptive management plans include:

- A timeline for periodic reviews and adjustments, as well as a mechanism to consider and implement additional mitigation measures, as necessary;
- Specific thresholds that would trigger changes in management actions, monitoring or mitigation;
- Criteria for determining whether additional mitigation measures are needed; and,
- A commitment to implementation of the proposed monitoring plan.

Ecosystem Services

The HCP's effects on ecosystem services, both positive and negative, should be analyzed and disclosed in the EIS. Of key importance in this context is the role of salmon as a provisioning species. Salmon produce highly valued food products harvested in various commercial, subsistence, and personal-use fisheries across the North Pacific. Salmon are also a principal focus of the spiritual and cultural lives of diverse native communities in the Pacific Northwest.

Salmon and steelhead also provide many ecosystem supporting services. Salmon are the principal food item of many terrestrial wildlife species[3,4] and a source of marine-derived nutrients to coastal lakes and streams[5,6,7]. They also act as watershed engineers that structure streambed habitats and alter sediment composition during spawning[8]. We recommend that these services be acknowledged, accounted for using quantitative (where feasible) or qualitative means, and fully considered in decision making.

This analysis should include the following elements,[9] which are basic tenets of the NEPA process:

- Describe the Federal action;
- Identify and classify key ecosystem services in the location of interest, i.e., the affected environment;
- Assess the impact of the Federal action on ecosystem services relative to the baseline;
- Assess the effect of the changes in ecosystem services associated with the Federal action; and
- Integrate ecosystem services analyses into decision making.

---

[3] Willson, M. F., and K. C. Halupka. 1995. Anadromous fish as keystone species in vertebrate communities. *Conservation Biology* 9(3):489–497.

[4] Merz, J. E., and P. B. Moyle. 2006. Salmon, wildlife, and wine: marine-derived nutrients in human-dominated ecosystems of central California. *Ecological Applications* 16(3):999–1009.

[5] Bilby, R. E., Fransen, B. R., and P. B. Bisson. 1996. Incorporation of nitrogen and carbon from spawning coho salmon into the trophic system of streams: evidence from stable isotopes. *Canadian Journal of Fisheries and Aquatic Sciences* 53:164–173

[6] Cederholm, C. J., M. D. Kunz, T. Murota, and A. Sibatani. 1999. Pacific salmon carcasses: essential contributions of nutrients and energy for aquatic and terrestrial ecosystems. *Fisheries* 24:6–15.

[7] Finney, B. P., I. Gregory-Eaves, J. Sweetman, M. S. V. Douglas, and J. P. Smol. 2000. Impacts of climate change on Pacific salmon abundance over the past 300 years. *Science* 290:795–799.

[8] Schindler, D. E., M. D. Scheuerell, J. W. Moore, S. M. Gende, T. B. Francis, and W. J. Palen. 2003. Pacific salmon and the ecology of coastal ecosystems. *Frontiers in Ecology and the Environment* 1(1):31–37.

[9] http://www2.epa.gov/eco-research/ecosystems-services

Cumulative Impacts
Cumulative impacts result when the effects of an action are added to other effects on a resource in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis.

In analyzing the HCP alternatives, we recommend the EIS characterize resources, ecosystems and communities in terms of their response to change and capacity to withstand stresses. The EIS should focus on resources which are "at risk" or have the potential to be significantly impacted under the various alternatives.

The EPA has issued guidance on how we are to provide comments to lead federal agencies on the assessment of cumulative impacts in Draft EISs, Consideration of Cumulative Impacts in EPA Review of NEPA Documents, which can be found on the EPA's web site at: https://www.epa.gov/nepa/cumulative-impacts-guidance-national-environmental-policy-act-reviews. The guidance states that in order to assess the adequacy of the cumulative impacts assessment, five key areas should be considered. The EPA tries to assess whether the cumulative effects analysis:

(1) Identifies resources, if any, that are being cumulatively impacted;
(2) Determines the appropriate geographic area (within natural ecological boundaries) and the time period over which the effects have occurred and would occur;
(3) Describes a benchmark or baseline;
(4) Looks at all past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern; and,
(5) Includes scientifically defensible threshold levels.

Coordination with Tribal Governments
Development of the EIS should be conducted in consultation with all affected tribal governments, consistent with Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments). The EIS should discuss whether or not the proposed project would affect tribal natural and/or cultural resources and address any concerns of the tribes in accordance with federal tribal trust responsibilities.

[redacted]

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, OR 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am writing to comment on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes Basin Habitat Conservation Plan in Oregon.

Our family farm is in Prineville and Powell Butte. We irrigate about 600 acres and water to produce our crops is essential for our survival as a family farm. Our family has been in Central Oregon since 1900 and irrigated agriculture has been a vital part of not only our family but also other families we do business with and go to school with. Water management decisions made in the HCP will be very critical to our family farm and the farms of other families in our area. Any reduction of water to our farms could severely impact our ability to make ends meet and stay in business, and raise our families in Crook County. Agriculture supports the economy in Crook County, and I am proud of our support of our local community. Without enough water to irrigate our farmland, the whole county would suffer and the fiber of the community would change. Irrigation management is critical to us.

To that end, I am asking you to ensure that USFWS closely consider the economic impacts of changes in management or irrigation availability caused by the HCP. Even small changes in management can have serious consequences for farms like ours, and economic information needs to be accurate, comprehensive, and on a scale that truly considers impacts to all farmers and the community who are impacted by management changes. I am happy to provide you with any information on impacts to my farm from the HCP, and know other farmers in the area would as well.

Thank you for the opportunity to provide comments. Please do not hesitate to contact me if you have any questions. My cell phone number is (541) 408-4471 for the easiest contact of me.

Sincerely,

Wade R. Flegel
[redacted]

[redacted]
Martin & Nancy Richards
[redacted]

September 22, 2017

VIA EMAIL: peter_lickwar@fws.gov

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend OR 97701

RE: Deschutes River Basin HCP-draft EIS

We began farming in North Unit Irrigation District (NUID) in 1989. Since then we've grown carrot seed, Kentucky bluegrass seed, peppermint oil, hay and grain while raising our family in Jefferson County. We survived the highs and lows of farming and adjusted to water shortages and increasing irrigation costs by adopting practices that conserved water and increased our productivity. Our children left Central Oregon to further their education but they have all returned to the area. We were excited when they recognized the opportunities available to them in the Deschutes Basin and within NUID in particular.

Many young families have returned to farming in NUID in recent years. What a testament to the innovative practices employed by the irrigation district and its patrons! The crops produced with the water utilized within NUID is impressive to say the least. These young farm families recognized the opportunities available to them and we recognize the positive economic impact their presence will continue to have in our community.

NUID patrons are some of the most productive, efficient water users in the country. Jefferson County relies heavily on the contribution that agriculture makes to the local economy. Please consider the economic effect on young farm families, NUID patrons, and the Jefferson County community when developing the Deschutes River Basin HCP.

Sincerely,

Martin & Nancy Richards

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - Draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:27 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Chris Gannon** [redacted]
Date: Fri, Sep 22, 2017 at 2:22 PM
Subject: Deschutes River Basin HCP - Draft EIS
To: "Peter_Lickwar@fws.gov" <Peter_Lickwar@fws.gov>

Peter,

Please add this last comment to the record -

I request the Services fully evaluate direct impacts to listed Middle Columbia steelhead (T) from catch and release fisheries that can significantly harm fish even though they are released, in theory, unharmed. I think we are missing a large impact to these fish in our Basin due to significantly high angler fishing rates and constant fishing pressure throughout the calendar year.

I acknowledge this is not the subject matter of this HCP, but it seems incredibly short-sighted to overlook such a severe impact to the very fish species we are attempting to recover and reestablish in the Deschutes. We have a social pattern that seems to favor one class (high end fishermen and women) over another (local farmers and ranchers). It will be a shame to have disproportionately impacted one group over another through the HCP process while ignoring equally harmful actions of others that directly harm fish.

Chris Gannon
Madras resident and concerned fish conservationist

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Deschutes River Basin HCP – Draft EIS (Scoping)

Citizen Comments 9/22/2017

I am not fully aware of the internal process and evaluation methods for HCP applications and proposals, so if any of my comments are off point or not completely applicable, it will most likely be due to this limitation on my part.

Generally speaking, the habitat conservation plan proposal is a good method of managing future natural resource conflict relative to endangered species protection, listing processes, and legal implications for those activities and entities subject to the law. Central Oregon is a place where these conflicts or challenges can be resolved through on-going cooperation, collaboration, and a healthy dose of pragmatic but creative solutions. The HCP process offers such a mechanism.

I am most familiar with the operations and impacts, both positive and negative, of Ochoco Irrigation District and the City of Prineville, in terms of applicant status and role within the HCP itself. To me, it appears disproportionate attention and weight is being placed on water quantity relative to water quality. While quantity is an important habitat dimension, I would suggest focusing more equal attention on water quality. Operations with OID relative to our most important sub watershed where I work, McKay Creek, are actually quite beneficial. OID releases water from their primary conveyance system directly into McKay during the irrigation season at Jones Dam. This water is derived from the bottom of Prineville Reservoir and is thus cold and relatively clean. In fact, during mid-August 2015, we measured water temperature and macro-invertebrate communities on McKay below Jones Dam and found temperatures consistently meeting Oregon's standard of 64 degrees (F). Macroinvertebrate community composition reflected this input with numerous healthy, large, individuals. While taxa could have been more widely represented, it was clear with one survey that McKay Creek is not limited for summer period water quality in this particular reach. In the context of an HCP application, are there mechanisms in place to encourage OID (and others) to continue with existing practices and operations that provide direct benefits to the habitat? There is no mandate for OID to continue McKay releases in this manner although it would be beneficial if that were somehow the case.

As for water quality improvements, I think we should be incentivizing the districts to do more with water retention, especially tail water that has the potential to carry nutrient loads and other undesirable materials to receiving waters. I think the solution to the water quality/irrigation interface challenge is to have more patrons retain water on their individual lands as opposed to expecting a single district-owned "facility" or project to fully address this input. Irrigation water re-use and recirculation systems could be developed for landowners that use a large volume of water beyond some established threshold level ensuring we prioritize the most impactful users first. Smallish wetlands scattered across each district would also provide unique and largely missing upland wetland habitat for terrestrial species that may not be currently listed but could be candidates in the future given land development patterns and habitat encroachment issues.

Lastly, I strongly believe we will not solve our long term regional water issues relative to all uses without additional storage capacity. My personal preference would be that most, if not all, of this storage be

developed in natural floodplains and floodways. Recreating much of the natural storage that has been lost in the Deschutes Basin is the best long term, cost-effective way to meet future water needs.

In closing, I think we miss a large part of the regional habitat and species management puzzle when we ignore regional impacts attributed to growth. More people in Bend will not benefit native habitats, native species, or give us much of a chance of maintaining the quality of life we want for wildlife and fish; and ourselves, frankly.

Chris Gannon, Central Oregon resident
[redacted]

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes HCP draft

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:15 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Ron Hahn** <[redacted]
Date: Tue, Aug 15, 2017 at 2:28 PM
Subject: Deschutes HCP draft
To: Peter_Lickwar@fws.gov

I enjoyed the presentation at Cross Keys Station. I learned a lot about the irrigation systems in central Oregon and the issues involving the HCP.

I would like someone to do a better job of educating the public to the importance of the threatened species, especially the spotted frog. A common response I hear is that many would be willing to allow the frog to go extinct rather than make changes to the way water is used.

I would like the irrigation districts to push hard on increasing the water efficiency of the irrigation systems, from reservoir to farm field. Surely, there are recommendations that could be made to farmers and workers about how to treat the water as the precious resource that it is.

Thank you
Ron Hahn
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

September 22, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

My father was the first farmer to take water delivery on the Agency Plains North of Madras in June of 1948. I was raised here as was my family. My wife just retired from teaching in this community. As I face retirement and what to do with the family farming operation the decisions that will come from U.S. Fish and Wildlife Service's Deschutes River Basin HCP- will influence my decisions, and may greatly impact my livelihood in my last years of farming in the North Unit Irrigation District (NUID).

The history of types of crops raised by the farmers within the NUID will show you how progressive and economical viable farming has been in Jefferson County once water was delivered to the North Unit project starting in 1946. Even being junior water rights holders farmers we are able to adapt and to make a living with the one constant being the water to irrigate with. The HCP must continue to figure in what the cost of water will be to facilitate the HCP and if it will be a reasonable cost so as farmers we can plan what crops to grow for a profit. Water costs of over $70 / acre and my legal fund expenses of $3698.68 on 589.9 acres is way beyond what the average farmer can continue to spend and stay viable.

Agriculture is about long range planning and decision making. As farmers we don't walk in to our farm business and flip a switch everyday or if times get tough pack up and move where it is cheaper to farm. We are here for the long haul as long as farming can make a profit to pay the bills and provide for our families. Agriculture can't survive in NUID with uncertainty about having adequate water flows when the crops need the water and increasing costs that hinders agriculture's ability from this project to be competitive.

NUID has always been in the forefront in conserving water. Water has been the key lifeblood element for Jefferson County since North Unit first started delivery in 1946 and developed the 50,000 acres to be irrigated as a world renowned specialty seed growing area. These 58,000 thousand irrigated acres are the economic engine of Jefferson County.

The frustrating part of this HCP process is the uncertainty that may destroy the agricultural base in Jefferson County that the farmers have worked so hard to make a viable and profitable industry. Being junior water right holders in Central Oregon has meant that as patrons of North Unit Irrigation District that we have always had to bear an additional cost to pay for conservation methods and tools to allow us to have adequate water allotments for our crops. With the current additional expenses that we are bearing due to the spotted frog it is very important that the HCP recognize how any additional expense will impact agriculture in the North Unit Irrigation District as well as the Jefferson County economy.

I spent most of my adult life trying to foster and save this agriculture zone. I served on the Land Conservation and Development Commission for eight years, don't upset the balance of Central Oregon's most valuable and productive farm belt.

I am prepared to meet with any of your staff and provide you individual information on how my farm operates and the conservation practices that I use as tools to help with conserving water, as well as share with you the history of NUID.

Sincerely,

Gary Harris
Harris Farms
[redacted]

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River HCP

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:21 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Robert Hickman** [redacted]
Date: Wed, Sep 20, 2017 at 2:51 PM
Subject: Deschutes River HCP
To: Peter_Lickwar@fws.gov

Peter: Thanks to a lawsuit by others, the Dept. of Reclamation is required to keep their releases from Wickiup above 100 cfs during the winter. However, the settlement apparently said nothing about maximum flows during the summer. There have been two recent Bulletin articles about what this is doing to streamside properties on the upper Deschutes.

Apparently, even though releases are only in the 1650 cfs range, flooding is now occurring in the river that never happened in the past. Reclamation blames weed growth. I blame siltation caused by Reclamation's release program; little in the winter and full bore in the summer. Whichever it is, it would seem to me that Reclamation's program should be limited to not cause flood damage to stream side properties, just as minimum releases are required to benefit the frog. In fact, the frog is probably impacted by upland flooding just as it is by too little water. So, something should be in the HCP to address upland flooding, and it should be enforced.

If Reclamation argues that weeds cause the flooding, then Reclamation should be required to remove the weeds (and silt if need be) from the main channel, not the whole river, but certainly a 20 foot wide channel down the middle. The removed material should be taken entirely from the river and composted, perhaps for use on the irrigated fields. And this should be done by and at the expense of the irrigation districts who benefit from these releases. In fact, they should support such a program because water flooding upland properties is never going to make it to the downstream users.

Reclamation and the irrigation districts should have some consideration for their neighbors, frogs and people, as they continue to use a wild and sgenic river as an irrigation canal. If they need to spend a little money to provide this consideration, the HCP should force them to do so. Needless to say, the HCP should not prevent such a benefit. Let's have some workable teeth in a plan for a change.

Virus-free. www.avast.com

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes Basin HCP Comments

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:28 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Ed Hughes** [redacted]
Date: Fri, Sep 22, 2017 at 3:19 PM
Subject: Deschutes Basin HCP Comments
To: "peter_lickwar@fws.gov" <peter_lickwar@fws.gov>

Hi Peter,

I'd like to add my comments to go with the work you folks are doing on the HCP. My biggest concern with the Deschutes River and its basin, including all flora and fauna, is the wildly varying flow levels. As I'm sure you know, the dramatic seasonal shifts effect so many species and riparian habitat. Of course, money is often the problem, but this entire irrigation system sorely needs an upgrade to minimize the wasted water as it is transported to the points of use. If this HCP, and its focus on stressed species can do anything to help in gaining funding to help achieve this goal, I'm all for it.

We know the spotted frog, bull trout, sockeye salmon and steelhead are the "canaries in the coalmine" when it comes to many of our waterways, particularly the Deschutes, so having them in the spotlight to help us achieve a better and healthier river basin is good. I'd really like to have the folks involved consider diverting monies from Fish Hatchery operations to this project. I think Mother Nature can do a better job of building fish populations than mankind can, if we can mitigate some of the external forces that alter the natural flow of the Deschutes.

Thank you for your efforts,

Ed Hughes
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Jefferson County Farm Bureau
798 SE Dover Lane
Madras, Oregon 97741
Phone & Fax 541.475.6776

September 22, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

Thank you for the opportunity to comment on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (82 Fed. Reg. 34326, July 24, 2017). Jefferson County Farm Bureau (JCFB) is the voice of agriculture in Jefferson County, representing more than one hundred farm families in the county.

Irrigated agriculture is the backbone of Jefferson County. With a farmgate value of $65 million, agriculture is the primary economic driver in Jefferson County and critical to the local communities. Jefferson County's core agricultural crops are carrot seed, grass seed, peppermint oil, garlic seed, wheat, alfalfa, grass hay, potatoes, and livestock. Irrigation management is critical to our county, as any changes in management can have widespread impacts on agriculture and our economic base. Thank you for allowing us to comment on the issues that will be the most critical to our famers in the development of the Habitat Conservation Plan (HCP).

As we have learned about the HCP process, we would like to emphasize the potential for the conservation actions proposed in the HCP to have significant economic consequences to irrigators in particular and the Deschutes Basin economy more generally. Potential economic impacts reach not only our member farmers, but also the local businesses and community that rely on the agricultural economy to function. Indeed, previous studies have demonstrated that a 10% reduction in water deliveries to Central Oregon irrigation districts could result in over $7 million in net losses to the region. Water management decisions made in the HCP have the potential to have significant economic impact on our members and farmers and ranchers throughout the region. Given the potential for serious economic impacts from management decisions made through the HCP, we urge USFWS to conduct a thorough and comprehensive evaluation of the socioeconomic impacts of the proposed conservation measures as part of its work to prepare the EIS.

It is critical that USFWS have an accurate picture of the socioeconomic impacts of any proposed changes in water use in the basin. To that end, we look forward to providing input to USFWS when and where additional information is needed

Thank you for the opportunity to provide comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

Sue Vanek
President

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

September 20, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am submitting comments on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon.

I am a farmer in Madras, Oregon, and I raise sheep. I am a patron of North Unit Irrigation District (NUID). I feel that the HCP may impact my ability to continue to farm. I live on a fixed income since my husband was killed in an auto accident. Every additional expense added to my NUID irrigation bill has a huge impact on my ability to make ends meet.

I am in the process of doing a Crooked River water right exchange for Deschutes water rights as part of a conservation plan by NUID. Since North Unit Irrigation District has the most junior water rights of the irrigation districts in the Deschutes Basin, we as patrons are always taking part in conversation plans. The costs all add up and it is the critical mass that will make farming non-viable in NUID.

Water management decisions that deal with additional costs and availability made in the HCP will be very critical to my operation. Any reductions in water to my farm could severely impact my ability to make ends meet and stay in business. Not only does agriculture support me, but it is also the heart of the economy here in Jefferson County.

Irrigation management is critical to us farming now, and for those that in the future who will want to enter the farming arena. As farmers age out and retire the cost of water and consistent supply will impact whether someone will purchase and/or lease farm ground that is irrigable. It would be sad to see NUID die because of impacts from the HCP.

The HCP that USFWS is considering needs to ensure that any economic impacts dealing with changes in management or irrigation availability caused by the HCP is at a minimum so agriculture is not destroyed in NUID due to unreasonable costs and/or uncertainty in water flows . Serious consequences for farms like mine may occur when the HCP puts in place small changes in management. Information needs to be comprehensive, accurate, and on a scale that truly considers impacts to all farmers and the community who are under the HCP.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Mickey Killingsworth
[redacted]

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - Draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:24 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Nancy Klatt** [redacted]
Date: Fri, Sep 22, 2017 at 10:59 AM
Subject: Deschutes River Basin HCP-Draft EIS
To: peter_lickwar@fws.gov

Mr Lickwar:

I am writing to you today in regard to the Deschutes River Basin HCP and the Draft EIS your office will be preparing.

My name is Nancy Klatt, and together with my husband, Jerry Klatt, own and operate a small cattle ranch in Culver (Jefferson County) Oregon. We have a little over 65 acres, all of which is irrigated with water from the North Unit Irrigation District. Our cattle are fullblood (purebred) Piedmontese and percentage Piedmontese, not a type of cattle that is turned out on grazing allotment, rather grazing on irrigated pasture and being fed good quality hay. We focus on cow/calf type of operation, but do sell grass fed locker beef seasonally in the Fall.

We have lived on this property for almost 19 years and depend on the irrigation to provide the pastures for our grassfed cattle. We did have some outside pastures leased in past years, but those have been lost primarily to development, making it all the more important to maintain the irrigated pastures we have on our home place to continue our cattle operation. Changes to the irrigation supply we currently have would seriously impact our ability to continue what we are doing with our property.

Jefferson County depends on Agriculture to drive its economy. The dark shadow cast over the area last Spring, with the potential of a lawsuit possibly halting or restricting the normal irrigation practices could be felt in all areas of local entities, especially around the Madras area itself. A big sigh of relief was cast when the Federal Court denied the injunction sought by the plaintiffs and Agriculture was able to continue a normal planting and harvest season in 2016 and into 2017.

In preparing the EIS, we ask that you diligently consider the economic effects changes to the delivery system of irrigation water to the entire Deschutes Basin, served by eight irrigation districts, including the North Unit Irrigation District in Jefferson County. Shortages of sufficient irrigation water will affect all types of crops, ie, seed crops, field crops including hay and livestock operations, as well as small niche type farming. Jefferson County currently raises high dollar seed crops, including hybrid carrot seed, garlic seed, onion seed as well as grass seed, some of the highest production in the United States, with sales worldwide.

In closing, everyone depends on Agriculture for the food and fiber it produces, the food you eat, the clothes you wear and so many other products that the average person takes for granted everyday. It takes a farmer or rancher to provide those items. We will be happy to provide any further information regarding the above statements upon request.

Thank you for allowing me to comment and for considering the information I have provided.

Most sincerely,

Nancy Klatt co-owner REMUDA RANCH
[redacted]

--
Nancy Klatt

Weidner, Emily <emily_weidner@fws.gov>

Fwd: More HCP Comments

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:16 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Lind, Yancy** [redacted]
Date: Tue, Sep 12, 2017 at 1:22 PM
Subject: More HCP Comments
To: "Lickwar, Peter" <peter_lickwar@fws.gov>

Peter,

Here are some additional “public scoping” comments on the HCP. Thanks.

I am concerned with the “practicability” component of the HCP and the cost estimates being generated by the BSWG process. In my opinion, the approaches and cost estimates often discussed in BSWG are wildly expensive and astonishingly biased. The process has been directed and manipulated by the irrigators towards an outrageously over-engineered solution set that will likely fail the practicability test. As clearly documented in the attached BSWG work product, there are far cheaper and practical solutions.

There are large numbers of patrons who, if given the chance, would gladly give up their water for free or a nominal cost. Much of the HCP flow requirements can be met with market-based solutions that require little if any infrastructure investment.

“Water market approaches, rather than being a niche opportunity, have the potential to supply quantities of water on par with the yields of large-scale infrastructure investments being considered in other parts of this effort. Importantly, several conservative methodological assumptions mean that significantly more supply may materialize in actual implementation. In many cases, water from these market-based approaches could potentially be obtained at relatively low costs.”

Further, while the issue of “carry water” is often used by the irrigators to dismiss the potential of market-based solutions, evidence has not been offered to support this claim. As acknowledged in the attached report, there are other barriers to purely market based solutions, but overcoming these barriers would be less costly and time consuming than the massive infrastructure projects that have been favored by the irrigators.

With regards to practicability, the HCP should be guided by what has been shown to be possible using low cost solutions and not influenced by a focus in the BSWG process on the highest cost solutions.

Yancy

[redacted]

[redacted]

[redacted]

[redacted]

This message, and any attachments, is for the intended recipient(s) only, may contain information that is privileged, confidential and/or proprietary and subject to important terms and conditions available at http://www.bankofamerica.com/emaildisclaimer. If you are not the intended recipient, please delete this message.

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

SCS Task 7 Technical Memorandum_Final_2017-07-28.pdf
1674K

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes Basin HCP

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:15 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Lind, Yancy** [redacted]
Date: Tue, Sep 5, 2017 at 10:27 AM
Subject: Deschutes Basin HCP
To: "Lickwar, Peter" <peter_lickwar@fws.gov>

Peter,

Thanks for the opportunity to comment on the HCP.

Clearly, the HCP must require the irrigators to restore flows in the upper and middle Deschutes but water quality is also important. Water in the Deschutes Basin should meet OWRD targets for temperature, pH, dissolved oxygen, and total dissolved gasses in order to provide suitable habitat for listed species. High levels of TDG in the Crooked River has repeatedly led to gas bubble disease. Both the Crooked and lower Deschutes often have pH levels above state standards. The middle Deschutes below Big Falls is designated critical bull trout habitat and should meet appropriate temperature standards. These issues are caused by warm surface water and agricultural run-off, both of which should be covered by the HCP as a requirement for issuance of the ITP. The warm surface water issue will likely become worse due to reduced flow from cold water springs in the lower middle Deschutes as a result of system improvement plans being proposed by the irrigators. This should be anticipated in the HCP.

It has been said that the HCP will have a term of 20-40 years, a period that extends well after the expiration of the “experimental” designation for reintroduced anadromous fish in the Crooked River. Accordingly, the HCP should require water releases from Bowman Dam into the Crooked River for the “maximum biological benefit of fish” as called for in the Federal Crooked River Jobs and Security Act of 2014. Beyond this, the HCP should require minimum flows year round in the Crooked River so as to not endanger threatened species listed under the Endangered Species Act.

Thanks again. See you at the BSWG meeting this Thursday. It looks to be an important one.

Yancy

[redacted]

[redacted]

This message, and any attachments, is for the intended recipient(s) only, may contain information that is privileged, confidential and/or proprietary and subject to important terms and conditions available at http://www.bankofamerica.com/emaildisclaimer. If you are not the intended recipient, please delete this message.

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

VIA EMAIL: peter_lickwar@fws.gov

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

RE: Deschutes River Basin HCP-draft EIS

Macy Farms, LLC is located in the North Unit Irrigation District, just west of Culver. My father came to Central Oregon in 1947 when irrigation water was first being delivered by NUID. We now have four generations actively involved in our farming operation. We would like to take this opportunity to comment on the economic impact the conservation actions proposed in the Deschutes Basin HCP could have on our farm and the Deschutes Basin economy in general. The commodities we produce play an important role in providing the food chain which helps feed our world. Wheat, carrot seed, potato seed, grass seed, peppermint oil, garlic, forage crops and seeds, and other vegetable seeds are just a few of the many crops grown in Central Oregon. This all requires irrigation water that comes from the Deschutes Basin.

Our farm gross income is close to $5 million which has a big impact on the Central Oregon economy. There are many other agricultural entities that are similar. This impacts the whole economy of the Deschutes Basin, from our employees to the entire business sector that operates Central Oregon.

With the potential consequences this could have on the overall economy of the Deschutes Basin, we would request that the U.S. Fish and Wildlife Service do a thorough and comprehensive evaluation of the economic impacts that the proposed conservation measures could have as part of its work to prepare the EIS. It should not be lost or minimized in its efforts to analyze the Deschutes Basin HCP. This should be a critical part of the analysis.

Thank you for your efforts and the consideration of these comments.

Sincerely,
Richard H. Macy
One of four generations of Macy Farms, LLC

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:17 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Joe Maier** [redacted]
Date: Wed, Sep 13, 2017 at 9:54 AM
Subject: Deschutes River Basin HCP - draft EIS
To: Peter_Lickwar@fws.gov

With the Oregon spotted frog now endangered, all of the following management issues are necessary:
1. proper water management levels throughout the entire year; winter flows must be increased as well as proper increase of water flows prior to the onset of breeding season with lowered flows in the irrigation high flow season.
2. habitate restoration of areas along the river adverserely affected by too much water or inadequate levels
3. Better reservoir management of habitats in Crane Prairie and other reservoirs
4. Better conservation of water in the irrigation canals. The beds should be lined or pipes used to prevent the high precentage of water loss. Upgrades of individual owners' irrigation systems should be mandated; perhaps by setting deadlines for discontinued use of inefficient systems. The concept that if an irrigator doesn't use all of the water allocation for one year, it will be lowered the next, is ridiculous and shoud be changed.
Thank you for your time and hard work
Joe Maier
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

To: US Fish and Wildlife Service
August 15, 2017

Thank you for the opportunity to comment on the Deschutes River Basin Habitat Conservation Plan draft EIS. I am a strong supporter of the Deschutes River and of restoring ecologically healthy flows through conservation. I am specifically interested in the irrigation “modernization” project of piping canals and ditches.

Although “modernization” is a component of water conservation, I can only support this tool if: 1) it is tied to enforceable requirements that conserved water be returned to the river; 2) specific in-stream flows will be sustained; 3) conservation by senior rights holders is achieved or required before piping; and 4) lateral canals are piped first, before the main canals.

The argument for modernization is compelling… on its surface. I have the following deeper concerns about the piping of irrigation canals and ditches:

- Development of hydroelectric power facilities and revenue will create a disincentive to implement conservation systems, as drawing more river water would produce more revenue for the irrigation districts.

- Water is not “lost” through leaking irrigation canals, rather, it recharges groundwater aquifers. Cold springs that are essential to threatened species (steelhead, bull trout) could be impacted if water is not able to seep into the ground from canals and ditches.

- Senior rights holders may lose incentive to conserve water through measures such as those currently employed by farmers in Jefferson County. Conservation measures must be developed and implemented, such as: use of drip irrigation, sprinklers or pump-back systems; demand-based delivery, rather than irrigation districts delivering water whether it is needed or not; and a metered system that allows irrigators to be rewarded for efficiency and conservation through lower bills.

Irrigation modernization and piping may be a part of the solution for creating a healthy Deschutes River system, but only if real conservation efforts are implemented and enforceable measures to put water back in-stream are attached.

Michele McKay
[redacted]

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:15 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Kris Nelson** [redacted]
Date: Mon, Aug 14, 2017 at 8:23 AM
Subject: Deschutes River Basin HCP - draft EIS
To: Peter_Lickwar@fws.gov

Please use best available science to determine the most responsible decision on ITPs. Based on my assessment, the ITPs being considered would pose unacceptable threats to native fish populations.

Thank you,

Kris Nelson

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

NPS Comments on Deschutes River Basin HCP

Lee Kreutzer: LKreutzer@nps.gov 8/4/2017

Thank you for this opportunity to participate in scoping for the Deschutes River Basin Habitat Conservation Plan. This office of the National Park Service, National Trails Intermountain Region, administers the Oregon National Historic Trail (NHT). We ask the Fish and Wildlife Service to determine whether the NHT falls within the area of potential effect for this undertaking, and if so, if the undertaking has potential to affect the NHT. Please add this office to the contact list for the planning process. Our point of contact will be Lee Kreutzer, Cultural Resources Specialist, who can be reached via email at Lee_Kreutzer@nps.gov and by phone at 801-741-1012 ext 118.

Oregon
Kate Brown, Governor

Department of Fish and Wildlife
East Region
61374 Parrell Road
Bend, OR 97702
(541) 388-6363
FAX (541) 388-6281

September 22, 2017

Peter Lickwar
United States Fish and Wildlife Service
U.S. Fish and Wildlife Service, Bend Field Office
63095 Deschutes Market Road,
Bend, OR 97701

Subject: ODFW Comments for the 2017 Deschutes River Basin Habitat Conservation Plan - draft EIS Scoping Process

Dear Peter:

Please accept the Oregon Department of Fish & Wildlife (ODFW) comments for the Deschutes River Basin Habitat Conservation Plan (DBHCP) - draft Environmental Impact Statement (EIS).

These comments serve as part of ODFW's continued DBHCP involvement including previously submitted remarks pertinent to the draft Chapter 5 DBHCP document detailing proposed mitigation measures released in August of 2014 by the "potential applicants for the ITP(s) including the City of Prineville and members of the Deschutes Basin Board of Control (i.e., Arnold, Central Oregon, North Unit, Ochoco, Swalley, Three Sisters, Tumalo, and Lone Pine Irrigation Districts in Oregon), collectively hereafter referred to as the Applicant. Our comments detail information and analysis that ODFW feels is important to be included as part of the 2017 DBHCP draft EIS scoping process. The lack of detailed species biological information and the generalized description of the Applicant's operations makes it challenging to provide more than cursory comments at this time. ODFW's comments contained herein at this initial stage, therefore are general in scope and are presented based on the understanding that as more information, including alternatives, are developed further, additional input from our agency will be provided. A comprehensive and thorough description and analysis of the impacts and the effects and any proposed mitigation actions for, and through, the DBHCP EIS is profoundly important to the aquatic habitats and listed species for which the Applicants are requesting Incidental Take Coverage.

ODFW appreciates the opportunity to provide input on the proposed HCP EIS and is hopeful that through continued effort, a sustainable habitat conservation plan beneficial to fish and wildlife species and the Applicant will emerge. ODFW is committed to providing input and working with the United States Fish and Wildlife Service, National Marine Fisheries Service and the Applicant in the effort to craft a DBHCP that appropriately provides for the habitat considerations of those species for which Incidental Take Coverage is being sought. Should you have any questions pertaining to these comments please do not hesitate to contact me.

Sincerely,

Ted Wise
Hydropower Coordinator – East Region
Oregon Department of Fish Wildlife
61374 Parrell Road
Bend, Oregon 97701
541-633-1115
ted.g.wise@state.or.us

COMMENTS OF OREGON DEPARTMENT OF FISH AND WILDLIFE ON DESCHUTES BASIN MULTI-SPECIES HABITAT CONSERVATION PLAN – DRAFT ENVIRONMENTAL IMPACT STATEMENT

The stated action for this particular draft Environmental Impact Statement (EIS) scoping is the issuance of an Incidental Take Permit(s) (ITP) for a proposed Deschutes Basin Multi-species Habitat Conservation Plan (DBHCP). The ITP is to provide coverage from incidental take for four salmonid fishes and one amphibian. The Mid-Columbia Summer Steelhead Trout (*Oncorhynchus mykiss*) and Bull Trout (*Salvelinus confluentus*) are currently federally listed threatened and endangered species. The other two salmonids which are proposed for coverage are Chinook Salmon (*Oncorhynchus tshawytscha*) and one population of Sockeye Salmon/Kokanee (*Oncorhynchus nerka)*. One federally listed threatened and endangered amphibian is to be covered – the Oregon spotted frog (*Rana pretiosa*).

Oregon Department of Fish & Wildlife Summary Comments

- Detailed information should be included in the DBHCP/EIS document pertaining to a thorough understanding of the habitats and life histories of all the species for which Incidental Take Coverage is being sought.

- The Applicant and United States Fish and Wildlife Service (USFWS) should provide the information necessary to allow a comprehensive review of the Oregon Spotted Frog (OSF) needs in conjunction with the biological/habitat needs of the other species in the upper Deschutes River reaches. This includes the need for a better understanding of the stream flow needs as related to the aquatic, riparian and wetland habitats.

- In respect to the duration of the proposed ITP, it is important that advantages and disadvantages of a range of timeframes be thoroughly analyzed. This should include timeframes of 5,10,15, 20 and 25 years.

- The length of the issued ITP is important to consider in respect to the limitations of models used to analyze such considerations such as climate change and in respect to limitations presented by the available information for each species as affected by the Applicant's operations.

- The analysis of the appropriate length of the ITP should include ability of Applicant's ability to fund the necessary mitigation measures.

- The analysis of the term of the ITP should be based on the flexibility of using an adaptive management model that allows timely and appropriate adjustments to management actions, during the life of the permit. The more difficult it is to make effective and timely adjustments to the issued DBHCP ITP, the shorter the duration of the ITP should be.

- The DBHCP EIS should include an analysis of the instream flow necessary in the Deschutes River, Whychus Creek and Crooked River to support quality habitat conditions for all life stages of the species for which "incidental take coverage" is being requested. Analyzed instream flow scenarios for those areas affected by the Applicants' activities and infra-structure should be built on a sound biological basis.

- The draft EIS Plan should thoroughly detail/analyze how any proposed mitigation measures and will contribute to objectives of the ESA-recovery plan for Mid-Columbia steelhead.

- The DBHCP EIS analysis should include those alternatives which provide for “certainty” in respect to necessary flows required as a basis for quality habitat condition in which each species is dependent. There is a need for binding minimum flows in the Crooked River system and Upper Deschutes River system that sustain and benefit all life history stages of those species for which the ITP is being proposed. This includes in particular, mid-Columbia Summer Steelhead Trout, Chinook Salmon, Bull Trout and the Oregon Spotted Frog.

- The draft DBHCP/EIS should address cumulative effects of the Applicant’s activities in concert with other anthropologic impacts. A cumulative effects analysis should be in provided to adequately address effects of the Applicant’s past and future activities.

- The DBHCP/EIS should thoroughly describe and address the City of Prineville’s potential effects of future development and land uses on the covered species.

- An analysis is needed of the potential effects of climate change in relation to the proposed DBHCP.

- Compliance, effectiveness and effects monitoring should be thoroughly addressed in the EIS analysis.

- The effects/impacts of a no-action alternative to those species for which ITP coverage is being sought should be thoroughly examined. This should include limitations resulting from aspects of the current flow regimes for each of the stream systems on each of the species habitats and life history stages.

- The Summer Steelhead Trout population located in Deschutes River and tributaries downstream of the Pelton Round Butte Hydroelectric Project, Pelton Dam (RM 100) (Trout Creek, Sagebrush Creek, Mud Springs Creek), while federally listed under the Endangered Species Act (ESA) as a Threaten Species; are not part of the ESA 10(j) experimental designation given to Summer Steel Trout population that is above the Pelton Round Butte Project.

- The EIS should provide that alternatives analyzed are consistent with applicable Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OAR).

Comments

ODFW recommends that in respect to enabling a sound analysis of the effects, impacts and potential mitigation measures commensurate with the impacts to the species, an adequate and thorough presentation of background information is necessary. ODFW recommends that the following information be included for each species proposed for ITP coverage:

I. Existing Information

A. Historical and Current Information Concerning Presence/Absence and Spatial and Temporal Distribution of Each Species on the Covered Lands
B. Life History
C. Biological Status
D. Species Habitat Condition Pre Covered Project Impacts.
E. Condition of Each Species' Existing Habitats
F. Habitat Capacity Estimates

II. Data Gaps
A. Presence/Absence and Spatial and Temporal Distribution Data Needs
B. Biological Status Data Needs
C. Habitat Data Needs

III. Effects of Covered Activities on the Species, Including Changes in Habitat Distribution, Abundance and Quality resulting from Covered Activities.

IV. Sensitivity of Each Species to Habitat Modifications Anticipated with Conservation Measures.

Information on historic and current habitats should be included for all species for which the Applicants are seeking coverage. A similar exercise was undertaken by the DBBC and City of Prineville in 2010 for assessing the implications of including redband trout as a covered species in the DBHCP (Biota Pacific Environmental Services 2010). For purposes of the redband trout assessment, "*covered lands included all surface waters, wetlands and riparian lands from the shoreline of all irrigation water reservoirs, including the irrigation supply network, downstream to elevation 1,945 feet above mean sea level, which is the maximum pool of Lake Billy Chinook*." In this vein the EIS analysis should provide context on historical fish production in areas above all the storage dams for which the applicants are requesting coverage. An example of this information is to be found in Study 14-2: Evaluation of Fish Passage Options for Ochoco Dam (R2 Resource Consultants, Inc. 2014). This study was completed in March of 2104, by R2 Resource Consultant, Inc. and Biota Pacific Environmental Sciences, Inc. for the Deschutes Basin Board of Control (DBBC) and the City of Prineville. This study in concert with other available resources should be utilized as a part of the basis for informing the effects analysis. Additional sources have discussed historic anadromous habitats above Bowman Dam. The effects of restricted access to areas of more favorable spawning and rearing habitats is certainly a consideration in respect to effects analysis of the Applicant's operations.

Fish screens and their operation are required by Oregon statutes. The DBHCP ITP EIS should include a detailed accounting of irrigation diversions and associated dams or obstructions for which the Applicants are requesting ITP coverage. ODFW recommends that the EIS include information detailing the presence or absence of screens or passage facilities. If a diversion or passage barrier is equipped with a screen and or fish passage facility, information on date of installation (age) and condition of the screen or passage facility should be included.

Stream flow alteration by the Applicant's water storage and diversion facilities affect fish habitat in many ways including: the amount and distribution of spawning and rearing habitat; the risk of damaging incubating eggs or larval fish by scour or desiccation; risk of stranding fish in low flows; conditions for upstream and downstream migration; the biophysical factors that form and maintain stream channels and the lack of access to historically productive upper basin spawning

and rearing habitats. Alteration of rivers and streams is also known to result in habitat fragmentation, as wetlands are drained or hydrologically altered.

The EIS should include a full ecological flow analysis which considers the frequency, magnitude, timing, rate of change, and duration of flow events necessary to support stream structure and function. The analysis of effects related to covered activities should account for those changes in river morphology, riparian habitats and wetlands, changes to water quality including water temperatures, changes in large woody debris inputs and blockages to historic habitats. These changes in habitats include effects to those riverine, riparian and wetland habitats inundated by the reservoirs proposed for ITP coverage. Changes in flow as a result of the Applicants' operations are significant in almost every month and reach. The DBHCP EIS should analysis the effects of significantly altered annual flow regimes resulting from the Applicant's infrastructure and operational activities on the riparian, wetlands, floodplains and general river geomorphology.

This statement should be expanded to include effects of altered flow regimes to riparian habitats, wetlands, river bank stability. Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands is recognized as a major factor contributing to loss of biological diversity and ecological function in aquatic ecosystems, including floodplains. Alteration of natural flow regimes in rivers and streams and their floodplains and wetlands has a variety of impacts which include: Reduction of habitat due to change in area, frequency and duration of activating floodplains and terminal wetlands. Riparian zones and the organisms inhabiting them can be dramatically altered as a result of change in flow patterns along the length of the stream course. As noted by (Poff et al. 1997), six components of flow regimes: amplitude, magnitude, frequency, duration, timing, and rate of change of hydrologic conditions, strongly influence the structure and function of riparian ecosystems. With respect to magnitude, for example, the width of riparian vegetation communities and their biomass increase with mean and median annual flow volume and drainage size in alluvial river channels (Stromberg 1993).

The EIS should detail and analyze the effects down ramping and up ramping rates of flow releases at all the Applicant's storage reservoir dams and diversion dams on the river environment and those species proposed for ITP coverage.

Deschutes River, Little Deschutes River and Crescent Creek

There are a number of the Applicant's patrons that individually divert small amounts of water at 33 locations on the Deschutes River. There should be a clear accounting of whether or not a diversion or passage barrier is equipped with a screen and or fish passage facility. Information on date of installation (age) and condition of the screen or passage facility should be included. A map with the location of each diversion, regardless of size, should accompany the diversion descriptions. This informational need applies to all stream reaches within the Applicant's operational framework, including the Crooked River and its tributaries and Whychus Creek.

The diversion of between 1200 cfs and 1700 cfs of instream flow during the spring; summer and early fall should be analyzed for its effect on fish and OSF habitat and OSF life stages.

The Central Oregon Irrigation District (COID), Siphon Power Project (FERC License 3571), located at approximately rivermile (RM) 169.5, about two miles above Bend. The EIS should analyze the environmental effects on OSF of the project. Please include information on the specifics of COID's Siphon Power, including operations, aspects of diverted flow, the bypass reach flows and other information that is pertinent to the proposed DBHCP and the ITP.

Return flows

In previous documents it has been identified that there are eight return flows directly to the Deschutes River, five of these enter the river at one of the reservoirs associated with the Pelton Round Butte Hydroelectric Project, and the other three enter the river downstream of Pelton Reregulating Dam. The rivermile (RM) location should be included in a table format for each point where irrigation flows return to the river. In addition the origin of the water that is being returned to the river should also be included.

The potential for irrigation return flows originating in the Deschutes River to contribute infectious Ceratonova shasta (C. Shasta) actinospores into the Crooked River and Trout Creek needs to be examined. This situation may result in a higher potential for infection of susceptible fish, including Summer Steelhead Trout and Chinook Salmon. Preliminary work done by ODFW (Stocking 2008) and others (Zielinski et al. 2010.) indicate a concern that warrants further investigation and that this issue needs be addressed as part of the EIS analysis.

Storage, Release and Diversion of Irrigation Water

Crane Prairie Reservoir and Wickiup Reservoir serve as thermal heat sinks. Data collected by the Upper Deschutes Watershed Council (UDWC) in 2004, (UDWC 2004) indicates that warming occurs in Crane Prairie and Wickiup to the extent that the baseline temperature is so high that any downstream cooling influences, i.e. Fall River and Spring River, are insufficient to bring temperatures back down into a range that meets criteria and is favorable for fish. Thus the negative thermal influence of the storage and release of the water for irrigation begins at the reservoirs and continues downstream into Bend and into the middle Deschutes River reach and subsequently into the reach below Big Falls. The warmer water in the middle Deschutes river reach is, at least in part, potentially attributable to the upstream reservoirs. Additionally, the North Canal Dam impoundment is a point of potential heat uptake for any water that continues downstream into the middle Deschutes River reach. This information should be included as part of the EIS analysis including a thorough description of the ecological changes as a result of the impoundment of large quantities of water for irrigation.

Water Quality

Information on water quality in Crescent Lake, Crane Prairie Reservoir or Wickiup Reservoir should be included in the EIS. Is the water quality in any of these reservoirs degraded during the summer months, and do they experience algae blooms as temperatures warm, including large blooms of the blue-green algae *Aphanizomenon* or the cyanobacteria *Microcystis?*

Entrainment of Covered Species

The DBHCP EIS should detail the status of fish screens, along with upstream and downstream passage facilities at each diversion. This should include the status of the Crescent Lake dam, Crane Prairie Reservoir dam and Wickiup Reservoir dam fish screens and fish passage facilities. The EIS should include information that substantiates that those facilities currently equipped with screens are sufficient to safely exclude juvenile and adult OSFs and the impacts associated those diversions and dams that are not screened or adequately screened including the North Unit Irrigation District North Canal Diversion screen.

Middle Deschutes River Instream Flow during the Irrigation Season

Should conversions of irrigation water rights for purposes of meeting flow targets be proposed, these conversions should be analyzed for potential effects on spring inputs into the middle Deschutes reach. Mitigation actions that may be proposed to provide groundwater mitigation credits in exchange for surface flows should be analyzed in respect to impacts of groundwater withdrawals that may reduce spring and seep inputs into any portion of the middle Deschutes between Bend Lake Billy Chinook. Reducing the amount of spring inflow by allowing groundwater withdraws in exchange for the upper Deschutes River flows warmed in Crane Prairie Reservoir and Wickiup Reservoir and the upper reaches of the Deschutes multiplies the warming effect on the middle Deschutes River reach. Mitigation practices that counter act efforts to reduce instream temperature are cause for concern.

The use of temporary leases to meet instream flow targets should analyzed as to the long term assurances of this type of flow mitigation. Temporary leases by their nature are temporary and do not amount to a permanent transfer of a water right to instream use. The need for having the foundation of any instream flow program/effort being based on certificated permanent instream water should be analyzed in the EIS.

Oregon Spotted Frog Comments and Recommendations

Length of the DBHCP:

Typically, HCP's identify specific actions designed to protect federally listed species and provide assurances to the Applicant that only those actions specified in the HCP will be required during the life of the permit. A long lived HCP may be appropriate when the needs of the listed species and their responses to management actions are well understood, but a shorter term HCP is appropriate in situations where significant biological and ecological knowledge gaps exist and timely adjustments to management actions may be needed to protect a species. The latter description exemplifies the current situation with respect to the Oregon spotted frog (OSF) in the Upper Deschutes River Basin. Our understanding of the frog's ecological needs and ability to function within the managed irrigation system has improved over the last few years, but most of that knowledge relates to the riverine environment and is far from complete. To date very little is known about OSF biology and ecology in a reservoir environment. Clearly, a more comprehensive understanding of the frog's needs within the Applicant's managed irrigation delivery system is needed.

Considering the above discussion, ODFW recommends that either: The term of the HCP is limited to a maximum of 5 to 10 years so that, if necessary, appropriate management modifications can be made following permit expiration, or a longer term (15 – 25 years) HCP is developed using an adaptive management model that allows timely and appropriate adjustments to management actions, during the life of the permit, as our understanding of the frog's biology and ecology within the managed system improve.

Biological and Ecological Information Gaps:

The purpose of an HCP is to protect federally listed species that exist where anthropogenic activities might otherwise cause their destruction. This is achieved by providing the Applicant with an incidental take permit that allows limited take of a listed species while requiring the Applicant to follow specific management actions designed to minimize or mitigate take by conserving the habitat upon which the species depend, thereby contributing to the recovery of the species as a whole.

Execution of a successful HCP requires that the needs of the listed species and their responses to management actions are well understood. However, as previously mentioned, our biological and ecological understanding of the OSF ability to function within the managed irrigation system is far from complete. Although important knowledge has been gained in the riverine system significant knowledge gaps exist and very little is known about OSF biology and ecology in a reservoir environment.

In order to meet the purpose of the HCP, ODFW believes that its development must address critical biological and ecological information gaps such as:
**Note: Efforts to address some of these questions are currently underway, but many are not.*

OSF Biology and Ecology:

What is the timing of oviposition, hatching, metamorphosis and overwintering habitat use in the mainstem Deschutes River, Crane Prairie Reservoir, Crescent Creek and the Little Deschutes River?

What is the survival rate of OSF life history stages and the effective population size in the mainstem Deschutes River, Crane Prairie Reservoir, Crescent Creek and the Little Deschutes River?

What is the relative contribution of OSF life history stages to population persistence, stability, and growth?

Which life history stages are the most sensitive to management actions and most likely to limit population stability or growth?

What is the range of OSF movements (distance and pathway) between breeding, rearing and overwintering habitats?

Is OSF survival effected by the selection of low quality vs. high quality overwintering sites?

OSF Habitat:

What are the locations and relative quality of OSF overwintering habitat on the mainstem Deschutes River, Crane Prairie Reservoir, Crescent Creek and the Little Deschutes River?

What are the flow contributions of Big Marsh Creek to Crescent Creek and the Little Deschutes River?

What mix of wetland vegetation is best suited for OSF egg and larval survival and how can water elevations be managed in the mainstem Deschutes River, Crane Prairie Reservoir, Crescent Creek and the Little Deschutes River to meet the desired conditions?

What are the potential long-term changes in wetlands along the mainstem Deschutes if future more stable flows are realized?

What is the potential for restoration projects, such as Ryan Ranch, to assist in recovery of OSF in the Upper Deschutes Basin?

Irrigation System Management Effects on Habitat and OSF:

What are the surface elevations that will inundate or expose key vegetation zones of sedges and rushes, important to oviposition and tadpole survival, in Crane Prairie Reservoir?

How does the timing and different ramp up and ramp down flow rates influence the timing and survival rates associated with oviposition, hatching, early tadpole development, and movement to overwintering sites in the mainstem Deschutes River, Little Deschutes River and Crescent Creek?

Does the fall drawdown on the Deschutes River below Wickiup Reservoir result in standing of juvenile or adult OSF in isolated pools or habitat and if so what drawdown rates preclude standing?

What is the relationship between year round in-stream flows and key OSF habitats on the mainstem Deschutes River, Little Deschutes River and Crescent Creek?

Invasive Species:

What are the conditions and mechanisms that may allow non-native flora and fauna to depress OSF populations?

What are the locations of established non-native flora and fauna populations, capable of depressing OSF populations, in the Upper Deschutes River Basin and what are the mechanisms that allowed their establishment?

How do changes in water elevation in Crane Prairie Reservoir limit or exacerbate predation on OSF by non-native species such as brown bullheads?

How do changes in water elevation in Crane Prairie Reservoir limit or exacerbate the spread and establishment of non-native flora such as reed canary grass?

Will flow rates designed to benefit various OSF life history stages also benefit non-native flora and fauna in the mainstem Deschutes River, Little Deschutes River and Crescent Creek?

Monitoring:

Beyond the need to address OSF biological and ecological knowledge gaps, the HCP should include a comprehensive and robust monitoring program that can identify the positive and negative effects of management actions on:

- All OSF life history stages
- OSF population stability and status in both the riverine and reservoir environs

- OSF habitat responses to management actions, and
- Invasive flora and fauna capable of depressing OSF populations.

Whychus Creek

Overview of Current Conditions

A good description of the current flow condition of Whychus Creek is in part found in the TSID Main Canal Piping Project (Phases 4-6) grant application dated May 17, 2012 as prepared by the Deschutes Resources Conservancy (DRC) in conjunction with TSID. The current condition of Whychus Creek is described as, "*Flow alterations due to irrigation diversions have occurred since the late 1800s in Whychus Creek. The stream is severely over allocated as rights have been issued authorizing diversion of more water than typically flows in the creek. Presently, the creek enjoys natural flows from its headwaters until it reaches river mile 23, where a series of major irrigation diversions remove close to 90% of the flow for a 5-mile stretch (Golden and Aylward, 2006). Below the City of Sisters, springs and return flow gradually rewater the creek around river mile 18, though flows remain insignificant as compared to the natural hydrograph. These conditions persist each year starting in April and ending in October. Insufficient instream flow has led to a decrease in water quality including elevated water temperatures throughout much of the watershed. As a result, Whychus Creek has been listed on Oregon's 303(d) list since 1998 for temperature (DEQ, 2002). In addition to poor water quality, fish habitat has suffered as a result of irrigation withdrawals. Impacts include increases in the channel width to depth ratio, reduced pool habitat, loss of oxbows and sloughs, loss of riparian habitat, and diminished channel/floodplain connectivity (NPCC, 2004). The decline of water quality and fish habitat in Whychus Creek and its correlation to low instream flow is well documented in a variety of watershed assessments published by a wide array of natural resource agencies."* The above description of the current Whychus creek conditions should be included in the Overview of Current Conditions for the EIS.

The DBHCP EIS should include an analysis of the instream flow necessary in Whychus creek for providing quality habitat conditions supportive of each of the life stages of the species for which "incidental take" is being requested.

In previous documents there has been reference to "*one TSID patron that will divert water by pumping directly from Whychus Creek upstream of TSID's diversion and that this will be a covered activity*." The EIS should detail this particular diversion and include information as to whether or not it is screened to prevent fish entrainment and as to whether or not the pump/diversion is gaged to ensure proper usage of water.

Whychus Creek Flow

Measures to address, contribute and or otherwise meet biological objectives/needs for all life history stages of steelhead trout and Chinook salmon in Whychus Creek should be analyzed.

As noted previously discussed the pros and cons of being dependent on instream leases should be analyzed. The EIS should explore the positive aspects of having the foundation of any instream flow program/effort based on explicitly dedicated certificated permanent instream water.

Whychus Creek Fish Screens and Fish Passage

Upstream and downstream passage is required at all artificial obstructions in those Oregon waters in which migratory native fish are currently or have historically been present. Correspondingly ODFW's fish screen statute requires the owner or operator of a diversion located in waters in which native and naturally spawning fish are currently present, to address fish screen requirements. NMFS also has fish screening and passage laws that apply to the waters of Whychus Creek. Additionally, TSID's Water Right Certificate No. 87798 certificate issued in October of 2012, by the Oregon Water Resources Department (OWRD) for use of water for hydroelectric purposes contains a condition declaring that the "water right holder shall construct, operate and maintain all fish screens, by-pass devices and fish passages as required by the Oregon Department of Fish & Wildlife.

ODFW asks that a paragraph be included that accurately describes the current state of covered species in the Whychus Creek system. This should be information pertaining to the Summer Steelhead, Chinook Salmon and Sockeye Salmon re-introduction efforts. It should discuss the extent and sites of releases of Summer Steelhead Trout and Chinook Salmon fry, downstream movement of juvenile smolts and any information on returning adult Summer Steelhead Trout or Chinook Salmon that may have entered or attempted to enter the Whychus creek system

Water Temperature

The draft EIS should include an analysis of the results of progressively increasing the instream flows beyond 30.19 cfs. For example what are the benefits of increasing the permanent instream flow to 35 cfs, 40 cfs, etc… ?

The draft EIS should address those instream flows necessary to maintain the stream temperature at ODEQ criteria for all the life stages of steelhead trout and Chinook salmon? How does ensuring 30 cfs of flow at the Sisters OWRD gage affect the flow and temperature in the downstream reaches of Whychus Creek?

In recent years through extensive monitoring conducted by the Upper Deschutes Watershed Council (UDWC) it has been demonstrated that 20 cfs and 30 cfs instream minimum flow does not provide adequate summer stream temperatures for salmonids. In the manner of the DBHCP draft EIS should consider/analyze information pertaining to instream flow which provides in instream temperatures that meet ODEQ criteria for all the life stages of anadromous and resident salmonids found in Whychus creek.

Where is cold water refugia located in the Whychus Creek system?

The EIS should analyze flows needed to provide for more suitable bull trout habitat, including stream temperatures upstream of Alder Springs? Bull trout have recently been documented at approximately RM 6 in Whychus Creek (ODFW 2014) several miles above Alder Springs perhaps indicating they might move further up Whychus Creek if more suitable conditions are achieved.

Crooked River, Ochoco Creek, McKay Creek and Lytle Creek

The EIS should include discussion as to how dams and altered flow regimes impact the river ecosystem. Alteration to natural flow regimes can occur through reducing or increasing flows,

altering seasonality of flows, changing the frequency, duration, magnitude, timing, predictability and variability of flow events, altering surface and subsurface water levels and changing the rate of rise or fall of water levels. (Walker 1985; Gehrke *et al.* 1995; Kingsford 1995; Maheshwari *et al.* 1995; Poff *et al.* 1997; Boulton and Brock 1999; Robertson *et al*. 1999, 2001.

As mentioned in preceding comments, the effects of altering a river's natural flow regime can result in negative impacts to stream channel morphology, riparian habitats, water quality and many other aspects of the riverine environment. The Applicant's covered activities have altered flow regimes on the Crooked River. This can affect fish habitat in many ways, including: the amount and distribution of spawning and rearing habitat; the risk of damaging incubating eggs or larval fish by scour or desiccation; risk of stranding fish in low flows, conditions for up and downstream migration; the biophysical factors that form and maintain stream channels and the lack of access to historically productive upper basin spawning and rearing habitats. Alteration of rivers and streams is known to result in habitat fragmentation, as wetlands are drained or hydrologically altered. This can lead to changes in species composition as wetlands species are replaced by upland species; loss of genetic integrity when isolated habitats are too small to support viable populations; and increased numbers of competitor, predator, and parasite species tolerant of disturbed environments. Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands is recognized as a major factor contributing to loss of biological diversity and ecological function in aquatic ecosystems, including floodplains.

A significant water quality issue is dissolved gas (particularly nitrogen) super saturation during periods of releases of high volume of water from Bowman Dam. Due to the configuration of the outlet structure of Bowman Dam, atmospheric nitrogen is entrained in the Crooked River at levels that exceed the standards set by the Oregon Department of Environmental Quality when discharge exceeds approximately 600 cubic feet per second. At high enough levels of entrained nitrogen, deleterious effects are manifested in aquatic organisms through a condition known as gas bubble disease (Porter, T, and B. Hodgson. 2016).

The EIS should analyze water quality in Prineville Reservoir or Ochoco Reservoir. Is the water quality in any of these reservoirs degraded during the summer months, and do they experience algae blooms as temperatures warm, including blooms of the blue-green algae *Aphanizomenon or* the cyanobacteria *Microcystis?*

Under current conditions access to numerous miles of historic mainstem and headwater tributary spawning and rearing habitat is blocked by Ochoco Dam and Bowman Dam. The EIS should analysis the extent of the upstream historic habitats and benefits of having the access to historic habitats.

The EIS overview of current conditions for the OID and Crooked River Basin should include the status of fish screens and fish passage at all dams, diversions, infiltration galleries, pumps and locations where water is diverted on Johnson Creek, Dry Creek, McKay Creek and Lytle Creek. This applies to the passage and screening status of Bowman Dam and Ochoco Dam. A table should be included in the draft EIS which allows a reader to easily discern the status of each diversion, pump etc..

In respect to existing screens: It is important that if <u>an existing screen does not meet current</u> NMFS criteria that it be replaced with a screen that does meet current NMFS criteria including approach velocities, screen mesh etc… This should apply to older screens that at one time may have met standards, but are no longer compliant. Please include an analysis of the screens and or downstream and upstream fish passage facilities at Bowman Dam and Ochoco Dam.

ODFW asks that a paragraph be included that accurately describes the current state of covered species in the Crooked River system. This should be information pertaining to the Summer Steelhead and Chinook Salmon re-introduction efforts. It should discuss the extent and sites of releases of Summer Steelhead Trout and Chinook Salmon fry, downstream movement of juvenile smolts and any information on returning adult steelhead trout or Chinook salmon that may have entered or attempted to enter the Crooked River system.

How do flows at or near 3000 cfs affect the Crooked River channel morphology?

What is the historic recurrence timeframe for large flow events approaching 3000 cfs below Bowman Dam?

What studies have been to done to assess the benefits to fish habitat of higher flows as might have been experienced during natural conditions?

Ecological Flows or Seasonally Varying Flow are should be addressed. Flow variability with storage irrigation is much less than unregulated. Moderately high flows in March, April, May and other times can potentially provide many ecologically important benefits. At a minimum the DBHCP EIS should include Indicators of Hydrologic Alteration (IHA) model runs on existing, proposed and unregulated flows.

Previous efforts that modeled flow alternatives and assessed Crooked River environmental flows (Hardin 1993, Hardin 2011, Hardin, T. 2001, WPN 2010) should be incorporated into the EIS analysis in terms of flow scenarios that might provide more certainty of year round suitable habitat for summer steelhead and Chinook salmon.

Water Temperature

What are the net indirect effects on stream flow temperature of the reservoir releases and return flows?

What is the effect of the colder tail-water flows below Bowman Dam on Summer Steelhead Trout and Chinook Salmon habitat?

How does the current condition of riparian vegetation, channel morphology and habitat along the Crooked River and tributary streams affected by the irrigation diversions interrelate to current water temperature?

Oregon Department of Environmental Quality (ODEQ) has conducted modeling efforts demonstrating that increased flows past OID had significant temperature benefits. It is logical that these temperatures be examined in the DBHCP EIS analysis?

What are the temperatures of the tributaries flowing into the Crooked River above Prineville reservoir?

What are the temperatures immediately below the OID Crooked River diversion compared to temperatures immediately above the diversion during the irrigation season?

How would increasing flow affect the temperatures downstream of the OID Crooked River diversion?

What are the temperatures of the tributaries flowing into Ochoco reservoir?

Water Quality

How does water quality in Prineville and Ochoco Reservoirs affect the water quality (pH, turbidity) downstream of the dams throughout the year?

The DBHCP EIS should include a complete description of the effects and impacts of its infrastructure and operations. This acknowledgement of the full potential impacts of impoundment and alteration of flow regimes on the ecology of the affected streams is essential to proposing conservation measures that satisfactorily compensate for those effects.

Adequate flows necessary to recover and sustain healthy fish populations (specifically summer steelhead and Chinook salmon) need to be dependably available regardless of irrigation season timing. A flow regime that provides quality habitat conditions (not minimal) for all the stages of Summer Steelhead Trout, Chinook Salmon and other covered species in the Crooked River and its tributaries should be to the objective of "Conservation Measures" provided during the irrigation season.

What are the current ramping rate standards utilized by the Irrigation Districts or BOR downstream of their reservoir storage facilities? Rapid flow reductions can adversely affect fish populations by dewatering spawning, rearing, or foraging habitat and may strand fish. Smaller juvenile fish (less than about 50 mm long) are most vulnerable to potential stranding due to weak swimming ability and preference for shallower, near-shore habitats. River channel configuration, channel substrate type, time of day, and flow level before down-ramping (antecedent flow) are also key factors that determine stranding incidence.

Flows identified/analyzed in the DBHCP EIS should be based on scientific assessment that provides effective habitat for all life history stage requirements.

Please explain BOR's role in managing the flow releases out of Ochoco Reservoir?

What are the current flow conditions on Ochoco Creek during the irrigation season?

Please analyze the flows necessary to provide for adult migration, spawning, incubation, rearing and outmigration of Summer Steelhead and Chinook Salmon on Ochoco Creek?

How much habitat and what are the habitat conditions for anadromous fish above Jones Dam?

How much flow is diverted out of stream at Jones Dam during the irrigation season?

Please analyze what year round flow regime in McKay Creek would provide quality habitat for all life history stages of Summer Steelhead and Chinook Salmon?

The Crooked River Flow Assessment Report (Watershed Professionals Network 2011) conducted for the Deschutes River Conservancy and The Nature Conservancy should be incorporated into the discussion of environmental flows for the Crooked River. This report included IHA analyses for all the major Crooked River reaches. The IHA results quantify the hydrological differences between flow scenarios. Also, the input files for IHA are ~20 year daily

flow series, which can easily be used to generate flow exceedance curves by reach and scenario.

An example of the how differing flows can affect fish habitat is found in a study conducted for the Ochoco Irrigation District by Vaughn etc. al. 2010. Significant changes were observed in the wetted area of the Crooked River and associated fish habitats. An excerpt from this 2010 report reads, "*Stream segments were categorized into three different types of habitat: pools, glides, and riffles. In May, the 1.6 km study reach was comprised of 16 different habitat units of which 49% were pools, 23% glides, and 28% riffles. During the October sampling effort there were 23 habitat units within the same study reach. The proportion of habitat types changed as well and was now dominated by glide habitat, 76%, with the remaining area made up of 16% pools and only 9% riffles. <u>The increase in habitat units identified during the survey in the fall and the corresponding shift in dominant habitat type is expected due to the large decrease in flow observed during the second sampling effort.</u> The flow in October was only 35% of the flow we observed during our May surveys (90 cfs vs. 245 cfs), which reduced water velocity through the study reach and altered the length of area classified as riffle habitat. The lower flows decreased the average wetted channel width from 31 m to 28 m and decreased the average depth in glides, 0.8 m vs. 0.4 m, but did not affect maximum pool depth which held steady at 1.3 m during both seasons*."

Bull Trout Seasonal Foraging

Bull Trout are currently present immediately downstream of Deschutes Valley Water District's hydropower facility. Once upstream fish passage is constructed at this facility Bull Trout will once again have access to the lower reaches of the Crooked River above this point. Please analyze flow scenario(s) at which temperatures would be suitable during the various seasons of the year for Bull Trout foraging.

Trout Creek and Mud Springs Creek

Drain inputs should not be responsible for contributing to elevated temperatures or volumetric inputs of warmer water than in the Mud Springs Creek or Trout Creek system. Please include an analysis in the EIS on this point.

Sedimentation in Mud Springs is an acute issue. ODFW biologists who have operated a fish trap on lower Trout Creek since 1998 have observed turbidly issues emanating from Mud Springs Creek on an annual basis. Beginning in the mid-2000's high turbidity levels have been observed in Trout Creek throughout the irrigation season. The extreme turbidity inputs stop 3-4 days after the irrigation season ends around Oct 15th. This pattern was continuing still be observed into December 2014. The amount of sediment deposited over the spring and summer is quite significant and silt depths in pools can reach 2 - 3 feet deep directly below the confluence of Mud Springs. (T. Nelson per com 2014). This information should be included as part of the analysis for the ITP EIS.

ODFW recommends that conservation measures are needed to eliminate the temperature issues resulting from the 58 -11 and 61 -11 drain inputs into Mud Springs Creek.

ODFW recommends that conservation measures are needed to address the acute turbidity situation occurring annually in Mud Springs Creek during the irrigation period. The sediment

levels observed in Mud Springs and Trout Creek at the confluence of Mud Springs Creek have the potential to effect incubating Summer Steelhead Trout eggs and fry emergence.

Climate Change

Climate Change should be accounted for in the draft EIS analysis. If climate change threatens the species by impacting the quality or quantity of its habitat in the future, or increasing its vulnerability to pathogens or exotic species, that increased vulnerability should be taken into account by the EIS analysis. The duration of the ITP should not exceed the limits of the climate change models used in the EIS analysis for assessing predicted effects.

References

Biota Pacific Environmental Services 2010 Assessment of the Implications of Including Redband Trout as a Covered Species in the Deschutes Basin Multi-species Habitat Conservation Plan. Prepared for the Deschutes Basin Board of Control and City of Prineville. April 28, 2010

Cramer, S.P., and N.K. Ackerman 2009. Prediction of Stream Carrying Capacity for Steelhead: the Unit Characteristic Method. American Fisheries Society Symposium 71, 2009: 34 pp.

Gehrke, P.C., Brown, P., Schiller, C.B., Moffatt, D.B. and Bruce, A.M. 1995. River regulation and fish communities in the Murray Darling River system, Australia*. Regulated Rivers: Research and Management* **11**: 363-375.

Hardin, T. 1993. Crooked River instream flow study. Prepared for ODFW, BLM, and BOR. Oregon Department of Fish and Wildlife, Bend Office. By Hardin-Davis, Inc. Albany, OR. 18p + app.

Hardin, T. 2001. Physical habitat for anadromous species in the Crooked River below Bowman Dam. Report prepared for BOR, Boise, ID by Hardin-Davis Inc. Corvallis, OR. 4 p + app.

Hardin, T. 2011. Modeling of flow alternatives to balance fish, reservoir, and out of stream needs in the Crooked River below Prineville Reservoir. Information Document for Roy Elicker Director. Tim Hardin Instream Flow Specialist Water Quantity and Quality Section ODFW, Salem Oregon.
http://www.dfw.state.or.us/fish/water/docs/official%20white%20paper%20Crooked%20R%20flow%20alternatives.pdf

Kingsford, R.T. 1995. Ecological effects of river management in New South Wales. In *Conserving Biodiversity; Threats and Solutions.* pp. 144-161. Eds. R. Bradstock, T.D. Auld, D.A. Keith, R.T. Kingsford, D. Lunney and D. Sivertson, Surrey Beatty and Sons, Sydney.

Maheshwari, B.L., Walker, K.F. and McMahon, T.A. 1995. Effects of river regulation on the flow regime of the River Murray, Australia*. Regulated Rivers: Research and Management* **10**: 15-38.

Nelson, Tom 2014. Oregon Department of Fish and Wildlife Trout Creek Field Office. per com December 1, 2014

Poff, N.L., K.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestegaard, B.D. Richter, R.E. Sparks, and J.C. Stromberg. 1997. The natural flow regime: a paradigm for river conservation and restoration. BioScience 47:769-784.

Porter, T, and B. Hodgson. 2016. Effects of a modified flow regime on the fish populations of the Crooked River below Bowman Dam. Oregon Department of Fish and Wildlife, Salem, OR.

Pusey B.J. & Arthington A.H. (2003) Importance of the riparian zone to the conservation and management of freshwater fish: a review. Marine and Freshwater Research, 54, 1–16.

(ODFW 2014). Oregon Department of Fish and Wildlife. Upper Deschutes Watershed, Bend office. Eric Moberly pers communication

R2 Resource Consultants, Inc. and Biota Pacific Environmental Services 2014. Study 14-2: Evaluation of Fish Passage Options for Ochoco Dam. Prepared for the Deschutes Basin Board of Control and City of Prineville. March 2014

Stocking R. 2008. 2008 Pelton Round Butte Project (FERC 2030) Fish Health Management Progress Report

Stromberg, J.C. 1993. Instream flow models for mixed deciduous riparian vegetation within a semiarid region. Regulated Rivers: Research & Management 8:225-235.

Torgersen, C.E.,D.P.Hockman-Wert, D.S. Bateman, D.W. Leer, and R.E.Gresswell.2007. Longitudinal Patterns of Fish Assemblages, Aquatic Habitat, and Water Temperature in the Lower Crooked River, Oregon: U.S. Geological Survey, OF 2007-1125, p. 37.

Upper Deschutes Watershed Council 2004. unpublished data.

Vaughan, J., S. Duery, T. Kassler, and I. Courter*. 2013. Crooked River Redband Trout Study. Cramer Fish Sciences. Gresham, Oregon. Report Prepared for Ochoco Irrigation District, Prineville, Oregon

Walker, K.F. 1985. A review of the ecological effects of flow regulation on the Lower River Murray, Australia. *Regulated Rivers: Research and Management* **8**: 103-119.

Watershed Professionals Network 2011. Final Summary Report Crooked River Environmental Flows Assessment March 18, 2011. Prepared for: The Nature Conservancy 821 SE 14th Avenue Portland, OR 97214 and The Deschutes River Conservancy 700 NW Hill Street Bend, OR 97701 Prepared by: Watershed Professionals Network 60065 River Bluff Trail Bend, OR 97702 www.watershednet.com

Zielinski, C. M. 2009. H. V. Lorz, and J. L. Bartholomew 2010. Detection of Myxobolus cerebralis in the Lower Deschutes River Basin, Oregon. North American Journal of Fisheries Management 30:1032–1040, 2010

OREGON FARM BUREAU

Locally Grown and GROWING STRONG

September 22, 2017

U.S. Fish and Wildlife Service
Attn: Peter Lickwar
Bend Field Office
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Comments on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

Oregon Farm Bureau submits the following comments on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (82 Fed. Reg. 34326, July 24, 2017). Oregon Farm Bureau strongly encourages the United States Fish and Wildlife Service (USFWS) to closely consider economic and social impacts to Central Oregon's farm families of the management decisions made through the HCP.

By way of background, Oregon Farm Bureau Federation (OFB) is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry as a whole. Today, OFB represents over 7,000 member families professionally engaged in the industry and has a total membership of over 60,000 Oregon families.

Irrigated agriculture is critical to the Central Oregon economy, and changes to management can have widespread impacts across Central Oregon. As our members have engaged in the HCP process, we have become aware of the fact that any decisions made through the HCP can have real and very impactful consequences on Central Oregon's farm families. Potential economic impacts reach beyond the farm, impacting the local businesses and community that rely on the

OREGON FARM BUREAU
1320 Capitol Street NE
Salem, Oregon 97301
www.oregonfb.org

agricultural economy. Attached as Exhibit A is a study that demonstrates that a 10% reduction in water deliveries to Central Oregon irrigation districts could result in over $7 million in net losses to the region. That is just one small examples of the consequences changes in management can have in Central Oregon.

Water management decisions made in the HCP have the potential to have significant economic impact on farmers and ranchers throughout the region. We urge USFWS to conduct a thorough and comprehensive evaluation of the socioeconomic impacts of the proposed conservation measures as part of its work to prepare the EIS.

Thank you for the opportunity to provide comments. If you have any questions, please do not hesitate to contact Mary Anne Cooper at maryanne@oregonfb.org or 541-740-4062.

Sincerely,

Mary Anne Cooper
Public Policy Counsel
Oregon Farm Bureau Federation

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP draft EIS - scoping

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:20 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Doug Heiken** <dh@oregonwild.org>
Date: Wed, Sep 20, 2017 at 11:00 AM
Subject: Deschutes River Basin HCP draft EIS - scoping
To: Peter_Lickwar@fws.gov

FROM: Doug Heiken, Oregon Wild | PO Box 11648, Eugene, OR 97440 | 541-344-0675 | dh@oregonwild.org
TO: U.S. Fish & Wildlife Service, and National Marine Fisheries Service
ATTN: Peter_Lickwar@fws.gov
DATE: 20 Sept 2017
RE: Deschutes River Basin HCP draft EIS - scoping

Please accept the following scoping comments from Oregon Wild regarding the proposed Deschutes River Basin HCP, https://www.fws.gov/Oregonfwo/articles.cfm?id=149489716. Oregon Wild represents 20,000 members and supporters who share our mission to protect and restore Oregon's wildlands, wildlife and waters as an enduring legacy.

The proposed action is to create a basin-wide Habitat Conservation Plan for the Deschutes River Basin to address the conservation needs of three federally-listed species (Oregon spotted frog, bull trout, and steelhead), and two currently unlisted species that have the potential to become listed during the life of the HCP (sockeye salmon and spring Chinook salmon). The HCP may lead to future Incidental Take Permits that could allow harm to listed species.

We urge FWS and NMFS to recognize that the appropriators who use water from the Deschutes Basin are using public resources, and FWS and the appropriators have the responsibility to protect and conserve those resources.

Deschutes HCP: The Deschutes Basin Board of Control should release the draft HCP for review, immediately. Without that document it is all but impossible to suggest “alternatives” to the HCP for inclusion in the EIS since the public is unaware of what existing “alternatives” the HCP contains. After 10 years and over 2 million dollars of public investment in this plan, the public deserves to see what is being proposed.

Upper Deschutes: The HCP should commit Deschutes Basin appropriators to managing the river to avoid harm to the Oregon Spotted Frog and other protected resources. This can be accomplished through management changes at Wickiup, Crane Prairie and Crescent reservoirs and conservation within the relevant irrigation districts. It is essential that the Upper Deschutes River be managed to more closely mimic the natural hydrograph of the river by providing higher winter flows and lower summer flows.

Middle Deschutes: The HCP should commit the Deschutes Basin appropriators to providing flows to meet the instream water right for the Middle Deschutes of 250 cfs.

Crooked River: The HCP should require that the Deschutes Basin appropriators provide minimum flows determined by USFWS/ODFW/NOAA for dry years and/or periods of drought. These would be flows above and beyond those required by the Federal Crooked River Jobs and Security Act of 2014.

Sincerely,
/s/

_____

Doug Heiken, Oregon Wild
PO Box 11648, Eugene OR 97440
dh@oregonwild.org, 541.344.0675

Oregon Wild's mission is to protect and restore Oregon's wildlands, wildlife, and waters as an enduring legacy for future generations.

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Comments for the Deschutes River Basin HCP-draft EIS

Having lived in the Deschutes Basin and been involved in planning and water issues for over 40 years, we still lack some of the knowledge and experience to provide comprehensive comments about drafting a Habitat Conservation Plan. That being said, there are some observations we have formulated over the years that we would like considered:

- Water, pure and, hopefully, abundant, is essential to all life and belongs to all people and species. We humans, particularly in our culture, seem to forget our interdependence on nature and environment, particularly when it is "inconvenient" for our perceived purposes. Our tendency to regard resources as commodities to be possessed and capitalized on has not always served us well. This is especially true of water. The EPA and the Clean Water Act have been too long in coming - we are discouraged at the lack of foresight by those who currently would dismantle them or their intent.
- Water management of, particularly, the Upper Deschutes for the past 100 years has served the region in terms of human development but was not designed, nor has it evolved, to serve indigenous species, particularly aquatic ones requiring certain conditions be met for continuing their life cycles. It is an irony that we have been so self-absorbed that it takes the loss or diminution of other species before we consider looking at alternatives. The ESA has been an essential stimulus for us to be more proactive in thinking about communities larger than the human one. Despite some of the problems it engenders, we support its concept and utilization; many of its problems have been created by our own specie's actions or inaction.
- Current water management and water law do not adequately address the fluctuation in availability of water nor do they approach this essential resource as one that must be shared. The Upper Deschutes Basin has functionally been converted to a storage and conduit system to serve only an irrigation system, not an environmental system. A healthy river system is extremely valuable, more so than any industrial, municipal, agricultural, or private use. All rely on the species, the habitat, the clarity and purity, reliable flow, and the many benefits - social and economical, emotional and recreational, measurable and immeasurable - that it provides.
- Despite efforts 30 years ago to address the irrigation and management issues, true solutions have been slow to evolve. The Basin Work Study Group is currently making some progress towards improved collaborative efforts in water use and management. Some of that progress has been stimulated by the requirements of the ESA and HCP-related litigation.
- This saying attributed to the Pacific Northwest Haida rings true: "We do not inherit the earth from our ancestors, we borrow it from our children. " It behooves us to act accordingly.

Drafting a HCP might include the following considerations:

- Ongoing support for collaborative efforts to address water law, management and sharing of water as a resource among all species and users.
- Support for modulation of current irrigation water management practices to provide less extreme fluctuations of water flows in the rivers and streams impacted by the old storage and conduit design of the irrigation districts. This would foster:
    - Diminished scouring of redds
    - Diminished silting and debris deposition downstream
    - Maintenance of some level of flow during the non-irrigation season adequate enough to provide cover, entomological habitat, vegetation footholds and water availability for aquatic and non-aquatic species
    - Bank stabilization
    - Less stranding of fry or disruption of reproductive cycles by abrupt water level changes
    - Development of irrigation storage sites outside of the river system that might capture some of the winter flows, creating additional aquatic habitat in other areas
- Ongoing research into the life cycles and required environments for wildlife species, endangered or not. Several benefits might accrue:
    - Improved understanding of the interrelationships of environment, food supply, predation, and species needs and adaptation
    - Confirm, disaffirm, or re-educate our current understanding of what factors influence sustaining, improving or diminishing the populations of a variety of species
    - New insights into methods of restoration or habitat enhancement
- Support for limited hydro production facilities where
    - "Take" could be minimized
    - Location is at existing diversions or storage structures
    - Additional beneficial habitat could be created
    - Economic returns are allocated to water and species conservation, actual habitat restoration, further research on species, and improved management practices for habitat and water
    - It offers reasonable support for a agency's request for PL-566 funding
- A permitting process that is dynamic rather than static. Consider:
    - Permits would have conditions tailored to mitigate projected impacts and affected locations / reaches
    - Initial short duration permit with a required review of consequences of initial provisions and execution before a renewal
    - Progressively longer duration permits as information and practices are refined
    - Incorporate both environmental and economic impacts in the considerations - a true EEIS process

- Benchmarks and metrics that provide timely feedback as to the effectiveness and efficiency of HCP components
- A re-evaluation schedule for the HCP
    - Efficacy
    - Are other species being adversely affected
    - Are funding modalities adequate
- Staged HCP requirements where appropriate to allow re-evaluation
    - A large minimal stream flow, for example, may be desirable but not feasible at a given time until water management or conservation measures could be completed
    - Creation of reproductive cycle environments such as redds, insect life cycle habitat and vegetation in or close to water might be more feasible with a combination of both flow and stream restoration measures.
    - "Multi-use" access might be limited in critical areas and then restrictions reduced or eliminated as recovery occurs.
- Continued support to and from Deschutes, Jefferson and Crook counties to reduce or prevent development impacts, especially in riparian areas
    - Limiting development of roads or bridges except as required by recognized Transportation Elements with full EEIS in Comprehensive plans
    - Minimizing potential for agricultural/golf course runoff or riparian grazing
    - Preservation of wetlands and riparian zones
    - Accountability in division of irrigated lands so as not to increase water demands/rights
- Support for any Bureau of Reclamation efforts to create additional storage facilities if such will enhance river basin health
- Continued partnerships with organizations intent on improving the river environment, water quality and its wildlife

Thank you for studying and preserving these threatened and non-threatened species and attempting to address issues that might lead to improvements in their survival. We hope you will continue to monitor the whole ecosystem to maintain a balanced and healthy Deschutes River Basin.

Yours sincerely

Jim and Becky Powell
[redacted]

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:30 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Kevin - Fox Hollow Ranch** [redacted]
Date: Fri, Sep 22, 2017 at 9:15 PM
Subject: Deschutes River Basin HCP-draft EIS
To: peter_lickwar@fws.gov

September 20, 2017

U.S. Fish and Wildlife Service

Bend Field Office

Attn: Peter Lickwar

63095 Deschutes Market Road

Bend, Oregon 97701-9857

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

My name is Kevin Richards. I live and farm outside of Madras, Oregon. I returned to my family's farm five years ago after starting a career in economics and public policy in Washington D.C.. I wanted to raise my young family on the farm in a rural community, like I had experienced growing up. We currently farm about 700 irrigated acres, growing primarily high-value seed crops. It is my hope that agriculture will remain viable for my sons if they chose to farm and raise their families here as I did.

Our family farm has always prioritized sustainable practices and investments aimed at long term conservation and health of the natural resources we depend on. Many local farmers, including ourselves, appreciate the value the Deschutes Basin HCP will provide for the ecosystem where we live and farm. Similarly, we hope the U.S. Fish and Wildlife Service understands and considers the contribution the agriculture community and economy has made to conservation. The HCP should account for the economic and financial impact to farm and ranch families and our communities. The potential impact is especially large where we farm in North Unit Irrigation District due to our junior water rights and ongoing financial burden of past and current conservation investments.

The future of agriculture in the North Unit Irrigation District (NUID) is dependent upon our access to water and knowing that we will have affordable, consistent and adequate supplies for farming. Farmers in NUID have established a global

reputation for specialty seed production and water is our most essential input. I can always use advanced technology to help with labor costs, change crops depending upon markets, but without water that is affordable and available I can't farm in NUID.

Over the past two years I have helped organize educational tours on irrigation practices in NUID. I am happy to assist your staff if you would like a tour. I believe such a tour may help your staff better understand the economic consequences, based on Jefferson County's dependence upon agriculture and irrigation, if the HCP disrupts the availability of water for crops or the cost becomes too high for agriculture in NUID to stay competitive.

Sincerely,

Kevin Richards

[redacted]

[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP draft EIS comments by Kathleen S. Roche

1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:18 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Kathleen Roche** [redacted]
Date: Fri, Sep 15, 2017 at 2:39 PM
Subject: Deschutes River Basin HCP draft EIS comments by Kathleen S. Roche
To: peter_lickwar@fws.gov
Cc: kathleensroche@gmail.com

Here are my comments regarding the preparation of a Habitat Conservation Plan (HCP) and Draft EIS for the Oregon Spotted Frog and other T/E species as affected by the Deschutes Basin Irrigators and the City of Prineville.

The HCP must minimize and mitigate existing effects on the Oregon Spotted Frog through:

1. Provide for an approximation of historic flows. It must approach this level over time to provide access to habitat for the Oregon Spotted Frog.
2. Reduce the scour that occurs at high flows. Consider piping to do this if practicable.
3. Provide for habitat restoration.
4. Provide the most protection for Crane Prairie populations.
5. Increase the amount of dead wood in the river and streams affected to restore more natural conditions.
6. Encourage more on site water storage to reduce fluctuations in flow.
7. Recognize the role of the Bureau of Reclamation in managing flows and the of the Forest Service (and BLM or other federal if applicable) in managing streamside habitat.
8. Provide of periodic reviews of the effectiveness of the actions selected and informing the public of actions implemented and progress achieved.

Please keep me on the mailing list for this project.

Thank-you for this opportunity to comment.

Kathleen S. Roche

[redacted]

[redacted]

[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

Attention: Peter Lickwar, USFWS, Bend Field Office September 19, 2017

Comments regarding Deschutes River Basin HCP - draft EIS

I have lived in the Upper Deschutes Basin and worked as a professional wildlife biologist for the Forest Service for over two decades. My professional experience includes work with Oregon spotted frogs (OSF). I am familiar with the physical setting and general OSF habitat conditions within the Deschutes River Basin HCP area. My comments below for the Deschutes River Basin HCP draft EIS are based on my understanding of the scientific needs of OSF, the analysis process to develop a HCP and the NEPA process to adequately disclose this plan to the Public.

ISSUE: Requesting Public input into the HCP without providing relevant background information makes it very difficult for the Public to give informed, detailed, site specific comments. There needs to be another Public comment period after the historic and current biophysical conditions are described and covered species life histories, habitat needs and project specific habitat conditions are presented for Public review. Under the current process, the Public will only have a chance for input into this HCP during the draft EIS review **after** issues, alternatives and mitigations are developed. The scoping process as it currently stands cuts out Public input into the development of this HCP.

ISSUE: The Oregon spotted frog (OSF) spends most of its life cycle in the floodplains associated with proposed covered lands. Covered lands must include all associated off channel OSF critical habitat.

ISSUE: The HCP EIS must have a description of covered species habitat conditions and how each species habitat conditions change with project operations, or how each species responds to those changes. Without this comprehensive discussion of changing habitat conditions and responses, there is no basis for analysis of impacts to covered species or their habitat. This was not done in the 2016 BOR biological assessment (2016 BA) or for the August 2017 HCP scoping public meetings.

ISSUE: This HCP EIS must include a detailed description of each occupied OSF site so that when effects to OSF and habitat primary constituent elements (PCE) discussions come up later, the changes in timing, amount and location of suitable habitat for each life stage at each site are well described and quantified to the degree possible. The baseline analysis must show how much, when and where habitat is available for each life stage at each OSF site for both regulated and unregulated flows. This sets a more comprehensive and specific foundation for describing and quantifying effects from proposed actions.

ISSUE: The HCP EIS must tie flows and water levels to wetland inundation and OSF life stages using graphs and discussion for each river reach being described. Without this tie, there is no concept of when, where or how much habitat there is available to covered species under current conditions or with any proposed changes. There is no foundation for effects analysis.

ISSUE: The best available science must be used to describe habitat conditions and species response to project operations. Site specific OSF species response and habitat monitoring data collection has been ongoing for a number of years. Where little or no information is available, conservation measures must be implemented to ensure species viability. It is clear that the best available science, including site specific data collected, was not used in the 2016 BA. The subsequent WaterWatch data FOIA request indicated that relevant OSF data were not made available to BOR or FWS in a timely manner, or the agencies failed to use the data they were provided.

ISSUE: Pat Kliewer, of Kliewer Engineering & Associates, Bend, Oregon, studied flow regimes since the beginning of hydropower generation along irrigation canals and found flows increased in peak and duration to optimize hydropower production. The increased hydropower flows likely also accelerated degradation of channel morphology and wetland habitat affecting covered species. Hydropower production provides economic gain to irrigation districts and incentive to have higher flows. Effects of hydropower production must also be discussed in this HCP.

ISSUE: The appropriate data sets must be used for analysis. The 2016 BA did not use the data years 2001-2017 for climate modeling even though the past 17 years represent some of the hottest ever recorded. Data from these years also represent hydropower production. Cutting off data analysis of the most contemporary years is not appropriate because analysis will not reflect the most recent conditions or rates of change in flow delivery which in turn affects covered species and habitats. At the very least, the choice of flow year data sets must be used that best represent current conditions for each issue analyzed, and the rationale must be well described why that particular data set is used.

ISSUE: Climate change is a significant variable when managing water use. There are multiple climate models for Oregon that show a wide range of variation in the rate, magnitude and type of climate change that will drive water recharge in the proposed HCP area over the proposed 20-50 year time period. The variation between models must be taken into consideration in the development of this HCP. There must be enough flexibility built into the HCP to accommodate climate variations. This can be done by adding adaptive management triggers and actions that allow for timely seasonal and annual water management adjustments. If variation is not fully addressed through timely adaptive management, then duration of the Incidental Take Permit (ITP) must be shortened to insure species viability.

ISSUE: There are years of extensive hydrology studies on the Deschutes River, but virtually nothing that ties flows and river morphology to wetlands occupied by OSF. This is a significant data gap that needs to be filled (as many scientists have said repeatedly for years). In the short term, use a species conservative approach when proposing actions. In the long term implement a comprehensive monitoring program with triggers that make changes seasonally and/or annually as needed.

ISSUE: Channel morphology changes have shifted OSF habitat and use patterns away from natural conditions. Wider, deeper channels have dropped water levels in off channel habitats used by OSF for 6 months of the year. These physical changes driving biological changes have to be part of the baseline discussion because it is the foundation for making a determination regarding how well the system is currently functioning for OSF under this project relative to natural conditions and what needs to change both within the project and to improve the project.

ISSUE: In comparison to decades of Deschutes River flow data; there are very little data on water levels in off channel critical habitat for OSF. It is essential that there be a very clear discussion on how the various data sets are used individually and collectively to describe the seasonal change in off channel habitat conditions for each river reach. In particular, it appears that professional observations are going to be a significant component to the current analysis because of the limited time and geographic extent of water level logger data. Reliance on professional observations must include the QA/QC data including who made the observation, when, where, what and how many times. There must also be a comprehensive long term monitoring component that fills in data gaps with adaptive management triggers that allow for timely management changes during implementation of the final HCP. In other words, get the data to back up professional observations and act on it in a timely manner making <u>seasonal</u> and <u>annual</u> adjustments as needed to minimize take in OSF off channel habitats.

ISSUE: A robust monitoring program must also be implemented to fill in critical data gaps and provide for timely changes to project operations. This is especially important for OSF and their habitat where not enough is known about how they respond or how their habitat responds to project operations. There is inherent conflict between HCPs and monitoring plans with adaptive management triggers that must be addressed. A HCP typically locks in actions for 20-50 years so that unknowns do not disrupt operations while a monitoring program with adaptive management triggers elucidates unknowns and takes action as needed. Because of the need for more data and analysis on effects to OSF from changes in operations, this HCP should be limited in duration to no more than ten years and contain requirements for gathering data necessary to assess the HCP's performance.

ISSUE: The FOIA record indicates that an OSF Habitat Suitability Criteria (HSC) model was done in 2016, though the email records seem to indicate there was ongoing discussion on some values. The HCP baseline analysis should assign values for Habitat Suitability Criteria (HSC) elements specifically designed for the Deschutes Project OSF critical habitat to the range of flows. Values for HSC elements are going to move within the range of optimum to unsuitable depending on flow and habitat conditions, so again a full range of flows for each HSC element for each habitat condition is very important. Values for each of the multiple HSC elements must be described through the full range of flows. (In other words, we don't want to see HSC value jump from 0 to 1.0 because the flow jumped from 100 to 1000. Rather, we want to see the flows that cause the HSC value to transition from 0 to 0.2 to 0.5 to 1.0). HSC/flow graphs as well as narrative should be used to describe how values for each HSC element changes with flow

through all OSF critical habitat. When done, the HCP will have the overwinter, breeding, rearing and basking HSC values for the range in flow regime for all OSF critical habitat. These HSC values display a quantifiable change in habitat conditions for OSF critical habitat within the project that can be used to evaluate effects of actions.

ISSUE: It is critical that the HCP EIS compare and quantify off channel OSF habitat condition changes for the current management strategy or any other strategy that may be proposed. These HSC/flow regime graphs described above will do that and will also display the OSF life cycle time periods when the needed habitat values are low, thus causing some type of stress to OSF. For instance, substrate is the most limiting breeding habitat factor at Dead Slough because of the timing of flow releases in the spring. At least 800 cfs at the WICO gage is needed to begin inundating vegetation and raise HSC breeding substrate value to 1.0. Anything above 800 cfs moves optimum breeding substrate habitat around and generally increases the amount available, but of course must be balanced against long-term sustainability in the system for fall and winter habitat as well. However, optimum breeding habitat substrate conditions are historically not reached until May after breeding season. The current management calls for 600 cfs during the breeding season, so OSF breed over mud with a HSC substrate value of 0.2 during the breeding season. The difference between 600 cfs and 800 cfs flows shows a quantifiable difference in suitable breeding habitat conditions. Breeding in such low value habitat due to low flow at Dead Slough puts considerable stress on breeding success. Each low HSC element value that occurs during the critical overwinter, breeding, rearing or basking life cycle periods must be discussed and mitigated.

ISSUE: The life stage chart taken from publications and presented in the 2016 BA does not match with later site specific discussion in the 2016 BA. I particularly disagree with the time periods used in the 2016 BA for breeding and metamorphosis flow releases. These breeding and metamorphosis dates should not be used. Rather, I have personally observed breeding beginning on March 15 in the Little Deschutes River (not April 1), which is consistent with the literature on OSF breeding dates. I have also observed tadpoles with no front leg development in August and young of the year (YOY) with tail stubs in October indicating that July 15 metamorphosis is too early. The consequences of delayed breeding and forcing moves on tadpoles during metamorphosis increase take. This must be discussed and mitigated.

ISSUE: There must be site specific discussion on overwinter habitat needs for OSF and effects to OSF during extreme low flow levels. Optimum habitat has 18-48" water depth, low/no flow, oxygen and no predators with aquatic connections to other seasonal habitats. Springs and other groundwater-supported off-channel habitat are believed to provide this (or the closest conditions to this) along the mainstem Deschutes, Little Deschutes, and Crescent Creek. The rivers are at best very marginal, but are likely being used with varying success by OSF as overwinter habitat purely out of necessity given current extreme low water conditions. Overwinter effects discussion must be about how flow changes affect these sites. Effects analysis has to also include discussion about a frog's ability to get to these particular overwinter sites given the massive

expanse of flooded off channel summer rearing habitat that can provide aquatic pathways far away from these tiny overwinter sites. The HCP EIS also needs to discuss what happens when OSF end up in suboptimal or sink overwinter habitat. Mitigation that maintains adequate non-irrigation season flows to support overwinter habitat has to be a top priority.

ISSUE: Annual project operations create extreme high/low flow regimes outside the river system's historic range that accelerate rate and magnitude of channel degradation. Channel degradation has led to dewatering the system's floodplains and loss or degradation of OSF critical habitat. Project operations must reduce flow extremes to allow for channels to aggrade and wetlands to reconnect to the river. Active channel restoration efforts need to be done that first prioritizes those reaches needed to support covered species.

ISSUE: Annual project operations create rapid shifts in water levels that flush OSF egg masses and tadpoles out of suitable habitat and present barriers to OSF movement in the form of dewatered habitat connections and high velocity flows. Extreme changes in water levels also create mud flats and impede establishment of desirable vegetative cover for OSF. Both magnitude and rate of change in water levels must be mitigated to reduce harm to OSF and improve habitat conditions.

ISSUE: There are significant uncertainties with OSF and climate model predictions. The HCP EIS must present a comprehensive discussion of these uncertainties. It must present a robust adaptive management strategy to address uncertainties in a timely manner. It must also present a species conservative approach while uncertainties are addressed.

Thank you for your consideration of the above comments.

Respectfully,

Terry Simpson

To: Peter Lickwar

From: Richard Stoltze

Date: 9/20/17

Subject: Comments on Deschutes River Basin HCP – Draft EIS

I am an avid fly fisherman who has observed the declining health of the Upper Deschutes Basin over the last 30 years. I am submitting the following comments in support of your drafting a "Habitat Conservation Plan" (HCP) focused on the following Values [as itemized in the Resource Goals Section (pg.70) of the Upper Deschutes Wild and Scenic River and State Scenic Waterway Management plan dated July, 1996]:

"The long-term goal (of the Plan) *is to provide a quantity of in-stream water which will protect and enhance:"*

- *"The geologic value by moving the erosion rates in the stream channel and stream banks closer to a natural range of variability."*
- *"The fishery value by providing an improved quality and quantity of habitat year round."*
- *"Aquatic and riparian vegetation to protect the river channel from erosion, provide cover and food for fish, macro-invertebrates, and other types of animal life."*
- *"Aquatic Resource conditions to perpetuate viable population of aquatic organisms."*

The attainment of the aforementioned goals has historically been constrained by the public land use set-asides created by the Carey Act of 1893 and water rights/claims managed by the Bureau of Reclamation and Irrigation Districts since 1913. However, the recent listing of Oregon Spotted Frog under the Endangered Species Act

now also requires the creation of an HCP for the Upper Deschutes Basin.

The fly fishing community is keenly aware that returning the flow regimens in the upper Deschutes River (Sections 2,3) below Wickiup Dam towards historical (pre-1913) levels will significantly contribute to the reestablishment of Oregon Spotted Frog habitat in the Upper Deschutes Basin. Normalized flow regimens will also help facilitate river habitat restoration, which is necessary for bringing back to the river self-sustaining populations of Brown Trout and other native trout with representations of juvenile, sub-adult and adult age categories.

The thousands of fishermen that use and enjoy the Upper Deschutes Basin encourage you to draft an HCP for the Oregon Spotted Frog as the "canary in the coal mine" indicating an unhealthy river. An environmentally strong HCP for the Oregon Spotted Frog will contribute to the return of the Deschutes River as "The Best Trout Stream in Oregon," as described in a 1916 article in the Oregon Sportsman, written by Warden W.O. Hadley. This article stated that the Deschutes River and its tributaries *"will soon be the best trout stream in the United States. This stream has a steady flow of good cold water and only varies a few feet from extreme high to low water."*

Please draft an HCP that contributes to returning the Upper Deschutes River to a healthy state, as described above. The fish and wildlife that live in the river and the riparian zone around it – as well as those of us that enjoy the Upper Deschutes Basin for a large number of recreational pursuits are counting on you!

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Spotted Frog Information

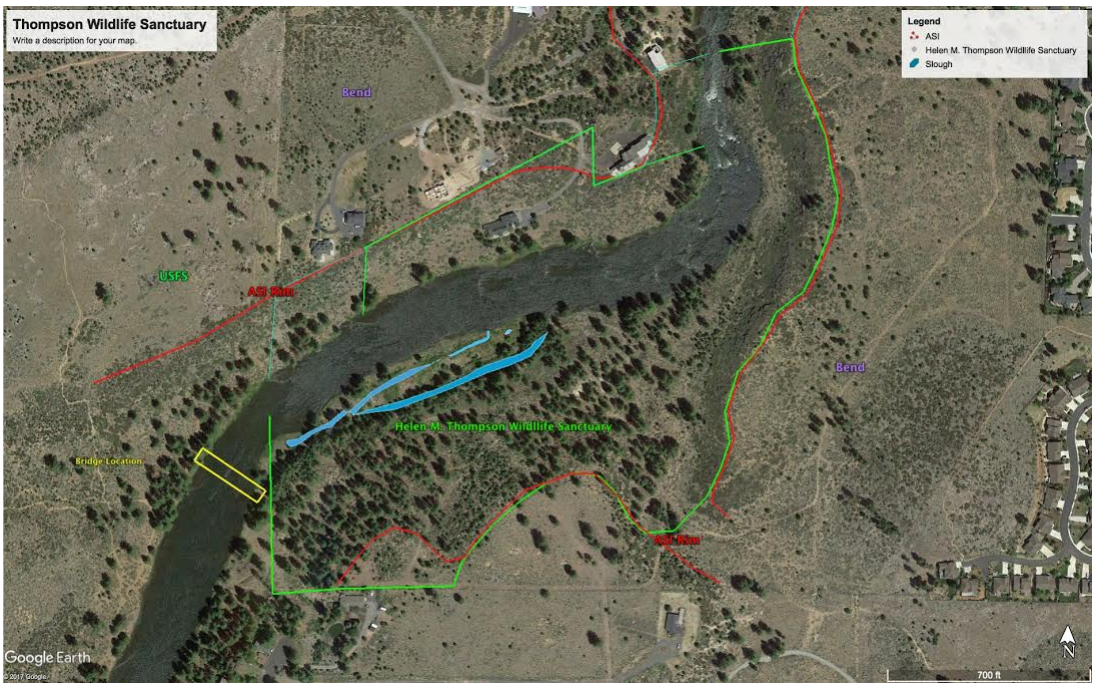
1 message

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:17 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Stosh Thompson** [redacted]
Date: Thu, Sep 14, 2017 at 12:37 PM
Subject: Spotted Frog Information
To: Peter_Lickwar@fws.gov
Cc: Erik Fernandez [redacted] "'Judy Clinton' [redacted]

Dear Peter and the USFWS,

I am submitting maps and a description of the Thompson Wildlife Sanctuary (outlined in green) at the SW corner of Bend, Oregon, where we have observed spotted frogs. As pointed out in the description, a unique feature of this stretch of the Deschutes is that the edges of the river do not dry up in the winter. I'm also enclosing photos of deer crossing the river in different seasons to illustrate this point. The Sanctuary provides habitat year round for the frogs due to this permanent wetland feature.



I will be out of the country until October 11, but can provide additional information after that.

Thank you for your attention.

Stephen E. Thompson, PhD
Director, Helen M. Thompson Wildlife Sanctuary

--
Peter Lickwar

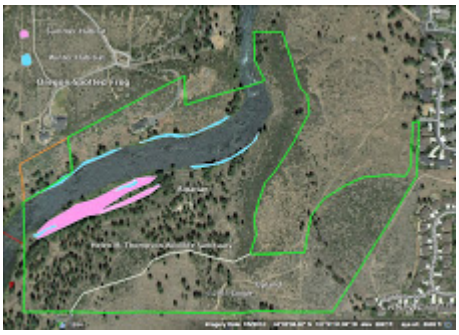
USFWS Bend, Oregon
Phone 541-383-7146

5 attachments

Does climbing from water.jpg
955K

7 deer emerging.jpg
915K

12717 Deer crossing river winter.jpg
847K



Spotted Frog Spp map.jpg
416K

HMTWS Mission and Facts.doc
43K

September 20, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am writing to comment on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon. I am a small business owner in Madras, Oregon. I have an electrical business. I service approximately 70 percent of the farmers that irrigate in the North Unit Irrigation District

Since North Unit Irrigation District has the most junior water rights of the irrigation districts in the Deschutes Basin, water management decisions made in the HCP will be very critical to all of the farming operations. Any reductions in water to the farms that I service could severely impact my ability to make a living and stay in business. I moved from the Bend area to raise my family in Jefferson County.

Agriculture supports the economy here in Jefferson County, and I am proud of their support of our local community and my business. Without enough water to irrigate the farmland, the whole county would suffer and the livelihood of the community would change. Irrigation management is critical to those of us that depend upon agriculture for our income.

I am asking you to ensure that USFWS closely consider the economic impacts of changes in management and/or irrigation availability caused by the HCP recognizing that it will impact the business sector in Jefferson County. Even small changes in management can have major consequences for the farmers that I service. The economic information needs to be accurate, comprehensive, and on a scale that truly considers impacts to all farmers and the community who are impacted by any management changes.

Please do not hesitate to contact me if you have any questions on the impacts to a business such as mine.

Sincerely,

Gary Richards
[redacted]

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

September 22, 2017

U.S. Fish and Wildlife Service
Attn: Peter Lickwar
Bend Field Office
63095 Deschutes Market Road
Bend, OR 97701

Sent electronically to Peter_Lickwater@fws.gov

RE: Deschutes River Basin Habitat Conservation Plan EIS Scoping Comments

Trout Unlimited (TU) appreciates the opportunity to provide comments on the U.S. Fish and Wildlife Service's (USFWS or "Action Agency") Notice of Intent to Prepare (NOP) a Draft Environmental Impact Statement (DEIS) for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon ("Deschutes River Basin HCP" or "Proposed Action"). The potential applicants for the Incidental Take Permit (ITP) that will accompany the HCP include the City of Prineville and eight irrigation districts that comprise the Deschutes Basin Board of Control (DBBC). The DEIS will evaluate the potential impacts on the human environment caused by the Deschutes River Basin HCP and other Action alternatives.

TU is a non-profit organization with a mission to conserve, protect and restore North America's coldwater fisheries and their watersheds. With more than 300,000 members and supporters nationwide, TU works to restore wild trout, salmon, and steelhead and their watersheds throughout the U.S. TU has over 3000 members in Oregon and over 650 in its local Deschutes Redbands Chapter. Restoring instream flows and suitable aquatic habitat conditions to the Deschutes River watershed is a key objective of TU and its members. To that end, TU has been engaging in the Upper Deschutes Basin Study (Basin Study), a collaborative effort intended to help resolve long-standing water management issues. Additionally, TU has engaged in numerous projects that help restore habitat, flows and/or fish passage to key watercourses in the Deschutes watershed.

I. Introduction

The upper and middle Deschutes watershed historically supported large populations of anadromous spring chinook, summer steelhead and resident populations of rainbow trout and bull trout. However, significant habitat modification from many factors including the construction of dams and irrigation practices fragmented and/or significantly reduced suitable habitat for these species leading, in some cases, to listing under the Endangered Species Act (ESA). It has now been over 10 years since summer steelhead (Middle Columbia River steelhead Distinct Population Segment) and almost 20 years since Deschutes Bull Trout were listed under ESA.[1] The most recent Recovery Plans for these species found a familiar suite of causes impeding their recovery, including degraded tributary habitats and impaired fish passage.[2]

While many praiseworthy actions are proceeding in the watershed to address these impacts, mostly in the form of habitat restoration projects, they are not enough on their own to reverse the trajectory of key fish species in the Deschutes or address the needs of Oregon Spotted Frog (which was recently listed under ESA). The larger scale actions that will be necessary to realize the full benefit of the restoration actions (such as improved timing, magnitude, duration and frequency of flows) are being discussed in the context of the Upper Deschutes Basin Study Work Group (Basin Study). While TU is encouraged by and fully supports the efforts of the Basin Study, there is no present guarantee that identified actions will be implemented when the Basin Study is complete.

Accordingly, the Deschutes Basin HCP and NEPA process present the USFWS and all interested stakeholders in the Deschutes Basin the opportunity to take a comprehensive look at suites of actions that have the potential to help restore healthy and resilient populations of salmon, steelhead, redband trout and other cold-water fish species, meet legal requirements under ESA, and facilitate critical water management activities that maintain the region's economic vitality. TU understands that ESA's scope as it relates to Habitat Conservation Plans can be construed to not require such an expansive analysis. TU suggests, however, that a more

---

[1] 71 FR 834.

[2] *See* Middle Columbia River Steelhead Recovery Plan, National Marine Fisheries Service West Coast Region (2009); *see also* Recovery Plan for the Coterminous United States Population of Bull Trout, United States Fish and Wildlife Service (2015).

expansive analysis is both legally required and critical to promoting additional collaborative discussions in the Basin.

Understandably, ESA's "minimize and mitigate" standard that applies to Incidental Take Permits (ITP) in HCPs generally requires only maintenance of the status quo condition. However, the ITP must also find that its issuance "will not appreciably reduce the likelihood for survival and recovery of each species in the wild." Given the severely degraded nature of the area in question, the current status of the applicable species, and projected changes that threaten the future resilience of the species (climate change and increased drought conditions) it is difficult to support a conclusion that maintaining the status quo over a long-term time frame (of possibly 40 years) will not appreciably reduce the likelihood of recovery of these species.

Accordingly, this HCP must do more than minimize and mitigate; it must require measures that will promote resiliency in these species and contribute to recovery. This approach is consistent with USFWS guidance that notes "[i]n addition to offsetting the impacts of the taking, applicants should be encouraged to provide conservation actions that will contribute to the long-term conservation of the covered species." USFWS HCP Handbook, p. 9-2. Additionally, USFWS guidance says "[i]deally the HCP should also contribute to the recovery of the species and provide a net conservation benefit." USFWS HCP Handbook, p. 9-37. A more expansive analysis will also inform collaborative discussions in the basin including the Basin Study and make it more likely that complementary measures are selected for implementation in those forums.

TU is approaching this scoping process in this collaborative spirit and looks forward to working constructively with the USFWS and basin stakeholders to engage in a thorough, objective analysis that seriously considers all actions that might be necessary to recover cold-water fish populations and OSF in concert with maintaining the region's water management activities and economic vitality. TU believes that the upfront effort of producing a comprehensive analysis now will pay for itself in the years to come by identifying a suite of measures that will produce the most benefit for both people and fish for the least cost. To ensure a successful analysis USFWS must use the best available scientific information, including current climate change information, along with the latest economic information.

II. <u>The DEIS must meet the legal requirements of NEPA.</u>

USFWS has requested assistance gathering information that will help define the issues, concerns and scope of alternatives for the DEIS. "Section 101 of NEPA declares a broad national commitment to protecting and promoting environmental quality."[3] In furtherance of this commitment, NEPA requires federal agencies to analyze the environmental impact of their proposed actions by preparing environmental impact statements for actions "significantly" affecting the environment.[4] The purpose of this requirement is to assure that agencies take a "'hard look' at environmental consequences," and "provide for broad dissemination of relevant environmental information."[5] NEPA does not mandate particular outcomes, only consideration of "every significant aspect of the environmental impact of a proposed action."[6] All impacts must be considered, whether direct, indirect, or cumulative, so long as they are reasonably foreseeable.[7] TU requests that USFWS address the following points in the DEIS to ensure compliance with the requirements of NEPA.

A. Purpose and Need Statement

NEPA requires federal agencies to articulate the "purpose and need" for a proposed action for which environmental review is required. 40 CFR 1502.13. The articulation of a purpose and need statement is critical for a properly framed and robust alternatives analysis-- the "heart" of NEPA -- because only a sufficiently broad statement will allow full development of an adequate range of alternatives which enables the EIS to provide "a clear basis for choice among options by the decision-maker and the public."[8] Given the importance of this statement, it bears emphasis that the USFWS must not define the purpose and need statement in such a manner that it curtails full assessment of alternatives.[9] Accordingly the purpose and need statement must clearly articulate that the DEIS is intended to be a robust, comprehensive analysis of alternative actions that could offset the impacts of the storage, release, diversion and return of irrigation water by the Districts and City of Prineville and fulfill conservation obligations under section 10 of the Endangered Species Act (ESA).

---

[3] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989) ("*Robertson*") (citing 42 U.S.C. §4331).
[4] 42 U.S.C. § 4332(2)(C).
[5] *Biodiversity Conservation Alliance v. BLM,* 404 F.Supp.2d 212, 216 (D.D.C.2005).
[6] *Baltimore Gas & Elec. Co. v. NRDC,* 462 U.S. 87, 97 (1983) (quotation omitted).
[7] *See* 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1508.7, 1508.8.
[8] *See*, e.g., Simmons v. U.S. Army Corps, 120 F.3d 664 (7th Cir. 1997); Davis v. Mineta, 302 F.3d 1104, 1118 (10th Cir. 2002); *see also* 40 CFR 1502.14.
[9] *City of Carmel-by-the-sea v. United Dep't of Transp.,* 123 F.3d 1142, 1155 (9th Cir. 1997).

A statement of project objectives should accompany the purpose and need statement, as is custom in many NEPA documents. Measurable project objectives allow a ready mechanism for the USFWS (and the public) to assess whether and to what degree the stated alternatives meet the purpose and need. In particular, the objectives will help quantify how the Proposed Action will fulfill conservation obligations under section 10 of ESA. To that end, TU recommends that the DEIS include detailed objectives for the species that are covered by the HCP (Covered Species). For fish species, biological and habitat objectives related to improving water quality, spawning and rearing habitat and life history diversity to increase survival and reproductive rates would be appropriate. For frogs, objectives aimed at providing more even and natural flow patterns by increasing flow rates in winter and mimicking more natural summer and spring conditions would be appropriate.

B. <u>Scope of NEPA analysis</u>

The proposed Plan Area for the HCP covers approximately 10,700 miles of land in Central Oregon. The exact area that will be covered must be delineated in the DEIS. Additionally, the DEIS should be clear what area constitutes the "permit area" (the area where the incidental take authorization applies) versus the "plan area" (areas that will be used for activities described in the HCP) versus the area encompassed in the NEPA review. Given that the Proposed Action can directly and cumulatively affect species outside the designated HCP area, the NEPA scope should include the entire range of the species covered by the HCP. This is necessary to allow USFWS to make its required finding that the impact of the taking will not appreciably reduce the likelihood of survival and recovery of the species. *See USFWS Handbook* noting that:

> "[T]he impact of the taking must be determined at the rangewide scale to ensure that the taking does not appreciably reduce the likelihood of survival and recovery of the species. Therefore, the area analyzed to determine the impact of the taking on a covered species is the entire range of the species." USFWS HCP handbook section 6.3.1.

USFWS NEPA scoping materials are unclear as to whether the Metolius River is included in the scope of the NEPA analysis. It is appropriate and necessary to include the Metolius River watershed. Specifically, the DEIS should describe how the Proposed Action contributes to conditions in the watershed that affect the fitness of species utilizing the Metolius River. For instance, DBBC operations contribute to lack of connectivity which could increase brown trout predation impacts; an occurrence that may impact sockeye in Lake Creek and access to their historic spawning grounds in Suttle Lake.

C. The DEIS must articulate a clear and thorough description of the Proposed Action (Action).

USFWS should describe the Proposed Action, including its complete footprint, anticipated operations and current and foreseeable purposes in sufficient detail. This information is necessary to properly determine both the benefits and the impacts of the Proposed Action. At present the Notice notes that various activities may be covered in the HCP including: (1) operation and maintenance of diversions, pumps, and intakes, (2) operation and maintenance of water conveyance and delivery systems, (3) diversion of water, (4) return flow and (5) conservation measures and associated construction activities. The DEIS must be clear what future activities will be covered in the HCP. To the extent future activities are not identified but are anticipated to be added at a later date, the process for adding new covered activities should be clearly described. TU recommends that the DEIS also include the information below.

The DEIS must disclose all the Proposed Action's current and reasonably foreseeable future facilities, including locations of all diversions, pumps, intakes, and conveyance structures. The DEIS must also disclose and analyze the operation of these facilities including the location and quantity of return flow. The DEIS should include information regarding current legal authorizations that facilitate the operation of the Proposed Action including current water right authorizations. The DEIS must note whether the Proposed Action includes facilities that generate hydropower and, if so, it must describe all facilities and infrastructure (both anticipated new construction and modifications to existing works) that are related to or necessary for power generation.

The DEIS should describe in detail the proposed conservation actions including timeline for implementation, effectiveness monitoring and potential enforcement methods. If such actions include protection of instream flows, the DEIS should describe in detail how much conserved water will be legally protected instream and by what mechanism.

D. Affected Environment

CEQ's NEPA rules require a description of the environment affected by the actions being analyzed in an EIS:

> The environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the

> alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an environmental impact statement.

40 CFR 1502.15. The affected environment includes the entire area of potential effect including potentially affected areas outside the immediate project area. *Reclamation's NEPA Handbook* 8-15 (Feb. 2012). DBBC and City of Prineville operations affect a large geographic area. Water management activities in the upper reaches of the Deschutes River outside of the currently occupied habitat can have an impact on river flows and/or water quality that affect ESA-listed salmon, steelhead and bull trout downstream. The DBBC and City of Prineville operations contribute to a cumulative effect where dams have blocked passage to large areas of historically productive salmon and steelhead habitat in the Deschutes basin and fragmented habitat and degraded water quality. Accordingly, the affected environment should encompass the entire Deschutes Basin and other areas outside the Basin that fall within the range of Covered Species.

Central to the description of the existing environment is the status and trends for the Covered Species (including salmon, steelhead and bull trout runs) and other sensitive species in the NEPA scope area, including redband trout, under the existing water management scenario. The DEIS should clearly articulate the distribution of each species and how the current flow regimes have impacted these species including limiting habitat suitable for spawning, rearing, holding and migration. The description for each species should include information expressed in quantitative metrics where possible and should include information on abundance, recruit per spawner ratios and survival rates. The DEIS should describe the year to year changes in these metrics as flows differ in each year. The DEIS should also describe the current state of habitat conditions including existing water quality conditions, stream connectivity and the extent and duration of floodplain and side-channel inundation.

The DEIS should be clear what flow regime constitutes the hydrologic baseline for purposes of assessing impacts and should describe the surface water/groundwater interaction in the scope area. As part of this analysis, seepage losses from current piping infrastructure should be quantified.

The DEIS Affected Environment section should also address the changing climate. In 2010, CEQ provided draft guidance on how climate change effects should be considered by federal agencies in their NEPA analyses:

> As with analysis of any other present or future environment or resource condition, the observed and projected effects of climate change that warrant consideration are most appropriately described as part of the current and future state of the proposed action's "affected environment.

Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, CEQ, at 6 (February 18, 2010) ("Draft Guidance"). The Draft Guidance further states:

> Climate change effects should be considered in the analysis of projects that are designed for long-term utility and located in areas that are considered vulnerable to specific effects of climate change (such as increasing sea level or ecological change) within the project's timeframe.

Draft Guidance at 7.

The best available information indicates that climate change will have significant negative effects on listed populations of endangered, threatened and sensitive salmonid species. Climate change implications that are likely to have harmful effects include warmer stream temperatures; warmer ocean temperatures; diminishing snow-packs, increased flood flows, increased susceptibility to fish pathogens and large-scale ecological changes, such as increasing insect infestations and fires affecting forested lands. These climate change impacts now and in the foreseeable future must be accounted for in the DEIS.

USFWS must incorporate the best available science in assessing the efficacy of the alternatives in light of probable changes caused by the warming climate. To do so, the DEIS must include hydrologic analysis that is integrated with and based on credible and substantiated climate change modeling. The DEIS must use a technically credible and substantiated hydrologic baseline that is developed for changed climate conditions and that is not simply based on past hydrology. Analysis and application of the results of modeling must describe and incorporate model limitations, biases, uncertainties, and extremes in order to accurately describe the confidence of conclusions and the potential

for extreme events.[10] For instance, a scientific study in 2015 notes "[s]ignificant changes in seasonality of extreme events not only challenge infrastructure and asset management, potentially the increased complexity of events and impacts also require distinct responses."[11]

E. Alternatives

NEPA requires agencies to:

> study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." This requirement … seeks to ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project … which would alter the environmental impact and the cost-benefit balance.

42 U.S.C. § 4332(2)(D).[12] Consistent with this requirement and as discussed above, the USFWS should select a range of alternatives that allows for evaluation of all major actions available to offset DBBC and City of Prineville impacts and not reduce the likelihood of recovery of Covered Species. "A 'viable but unexamined alternative renders [the] environmental impact statement inadequate.'"[13]

Providing stakeholders with an honest assessment of the available actions and the cost/benefit of choosing certain actions over others or identifying which ones must occur concurrently to achieve optimal effectiveness will increase the likelihood that thoughtful discussion ensues and an efficient, effective, widely supported plan emerges in the Basin. Truly understanding the trade-offs involved in decision-making might push stakeholders toward an action that otherwise would have been disfavored without such an analysis. To that end, TU

---

[10] *See* The Extremes of the Extremes: Extraordinary Floods (Proceedings of a symposium held at Reykjavik. Iceland.) July 2000. IAHS Publ. no. 271. 2002.

[11] Nonstationarity in seasonality of extreme precipitation: A nonparametric circular statistical approach and its application. Nirajan Dhakal 1,2,3, Shaleen Jain1,2,4, Alexander Gray1,5, Michael Dandy 2, and Esperanza Stancioff 1,5. May 2015. Available at: http://onlinelibrary.wiley.com/wol1/doi/10.1002/2014WR016399/full

[12] *Calvert Cliffs' Coordinating Committee, Inc. v. U. S. Atomic Energy Commission*, 449 F.2d 1109, 1114 (D.C. Cir. 1971). Further, NEPA section 102(2)(E) requires that the federal lead agency "study, develop, and describe appropriate alternatives to recommended course of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources...." 42 U.S.C. § 4332(2)(E). The duty to consider alternatives under NEPA 102(2)(E) is "at least as broad" as the duty under NEPA section 102(2)(C)(iii). The purpose is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project or of accomplishing the same result by entirely different means." *Environmental Defense Fund v. U.S. Army Corps of Engineers*, 492 F.2d 1123 (5th Cir. 1974); *see* Mandelker, *supra* § 9:22, p. 9-53.

[13] *Muckleshoot Indian Tribe*, *supra,* 177 F.3d at 814 (*quoting Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)).

recommends that the following alternatives be included in the DEIS and that the analysis of each alternative clearly articulate whether and to what degree they achieve the goals and objectives outlined in the purpose and need statement.

1. <u>No Action Alternative</u>

The No Action Alternative should describe the state of the environment if no changes to existing actions are taken pursuant to this NEPA document; essentially what would occur in absence of issuance of the HCP/ITP. This would likely be no change to existing operations, at least in the short-term until new regulatory or collaborative outcomes dictate a changed course, such as the expiration of the existing 10(j) regulation in 2025. This Alternative can include reasonably-anticipated projects and activities planned or proposed without the Proposed Action. The DEIS should clearly explain the basis for the scope of the No-Action Alternative selected.

2. <u>Modified Flows Alternative</u>

The DEIS should evaluate alternatives intended to assess the benefits and impacts of different flow regimes. The alternative should include enhanced minimum flow targets during irrigation season, enhanced winter flow scenarios, spring ramping rates and enhanced dry year flows (particularly in the Crooked River). To do so, USFWS should utilize the best available information including "flow scenario" information being generated by the Basin Study. The different parameters that should be analyzed for each river reach are described below.

a. Upper Deschutes

The upper Deschutes watershed historically supported healthy populations of bull trout and redband and OSF. Large deviations from the historical hydrograph from dam and diversion operations have significantly degraded water quality and the habitat for these species. Accordingly, the Alternative should analyze a range of enhanced upper Deschutes winter flows to help meet the needs of these species including: 300 cfs, 450 cfs and 600 cfs.

b. Middle Deschutes

Historically, this reach supported a larger population of bulltrout and redband trout. Additionally, anadromous fish utilized the reach below Big Falls. However, seasonal flow fluctuations as a result of water management activities have significantly impaired the quantity and quality of instream habitat in this reach. Therefore, the Alternative should consider a range

of Middle Deschutes summer flows to improve conditions for fish species and improve water quality. Such a range should include 250 cfs (ODFW instream water right amount) but also lower flows such as 175 cfs (to understand how resources and water quality may be impacted especially if the lower Middle Deschutes flows occur in conjunction with additional cold water inflows from Tumalo Creek). ODFW has found that the Middle Deschutes is a significant habitat area for redband trout[14] and that they may be affected by temperature more than flow. Accordingly, the DEIS should consider measures to improve water quality in this stretch including increased releases from Tumalo Creek to lower temperatures.

c. Whychus Creek

Historically, Whychus Creek was a very productive native steelhead and chinook fishery. In addition to these two species, the Creek supports populations of redband and bulltrout. However, streamflow depletion has significantly degraded aquatic habitat attributes in the Creek and it is now identified as a "water quality impaired" stream by the Department of Environmental Quality.[15] Instream transactions and habitat work have improved conditions in the Creek however conditions remain sub-optimal for fish species. Accordingly, the Alternative should consider flow ranges in the 45-65 cfs range during irrigation season. This quantity has been identified in the Whychus Creek Watershed Restoration Plan Update as necessary for successful restoration of flows and water quality in the summer.[16]

d. Crooked River

The lower Crooked River historically supported large populations of spring Chinook, steelhead and bull trout. However, dam operations, water diversions and irrigation practices have degraded instream habitat and water quality. To improve water quality and habitat conditions for fish species, the Alternative should analyze minimum flows below Bowman Dam of 80 cfs, 120 cfs and 140 cfs. ODFW has determined that a minimum of 80 cfs is necessary in the storage season to protect the resources in the tailwater fishery. Additionally, this Alternative should consider and analyze drought management measures for the Crooked River. This Alternative should be mindful to assess impacts on temperature and water quality both below and

[14] 2012 Middle Deschutes Fisheries Monitoring Report. 2012. Oregon Department of Fish and Wildlife.
[15] *See* Deschutes River,Whychus Creek, and Tumalo Creek Temperature Modeling. 2008. Oregon Department of Environmental Quality.
[16] *See* Whychus Creek Watershed Restoration Plan Update. 2013. Upper Deschutes Watershed Council. The Update used Chinook salmon, steelhead trout and resident rainbow trout as target species and identified the 45-65 cfs range in the summer as a "good" range to provide adequate streamflow.

in Prineville Reservoir from the different flow releases. It is possible that high flow releases in summer may result in higher temperatures in Prineville reservoir thus impacting the temperature below the reservoir from instream releases. The Basin Study CEQUAL analysis may help inform this analysis.

3. Fish Passage alternative

There are reasonably foreseeable fish passage projects in place that could affect how the Proposed Action will benefit and impacts aquatic species. Therefore, TU recommends that the Preferred Alternative and all of the flow scenarios mentioned above be analyzed with and without fish passage at Opal Springs to ascertain how the foreseeable action will impact species response if and when it's implemented.[17] This Alternative could also consider how analysis would change if fish passage was restored at Prineville Country Club and McKay Creek.

4. Recovery alternative

This Alternative is intended to offer a vision for species recovery in the Deschutes watershed from which to assess how well implementation of the HCP Conservation Strategy will contribute to attaining the vision. As noted in the Introduction, the HCP is intended to do more than merely offset the impacts of the proposed taking. It is supposed to present a conservation vision that is "structured within the context of larger conservation efforts to allow a clear assessment of how the HCP affects the recovery of species and helps build more resilience and adaptive capacity." USFWS HCP Handbook, p 9-5.

This Alternative should utilize the best available information (including information generated by Basin Study, recovery and reintroduction plans) to analyze actions required to establish the physical and biological conditions necessary to promote recovery of the Covered Species and build their resilience. This should include relevant flow and habitat measures. Generally, the Covered Species are vulnerable to large-scale threats such as climate change and related threats such as increased drought, increased pathogens and increased wildlife events. The Covered Species build resilience to these events by having the ability to express different life-history strategies. It is important to understand how the Conservation Strategy facilitates this and fits into a larger vision of recovery for each of the Covered Species.

[17] *See* Letter from Deschutes Valley Irrigation District to Federal Energy Regulatory Commission on the Status of the Opal Springs Hydroelectric Project, March 28, 2017 noting that the settlement parties have agreed to an alternative design for the Project and a time frame for securing funds and that the parties will meet to assess final details in November 2017. FERC e-Library 20170328-5130.

5. Different permit duration alternatives

Given the large range of permit durations being considered it would be helpful to understand how the impacts of the Proposed Action, including the beneficial aspects of the proposed Conservation Strategy in the HCP, compare over different time scales. Therefore, this Alternative should analyze the potential impacts and benefits of the Proposed Action for a 20, 30 and 40 year permit duration.

F. Analysis of potentially significant impacts and benefits from the continued storage, release, diversion and return of irrigation water by the Districts and the City of Prineville and the implementation of the Conservation Strategy.

Under NEPA, the analysis in an EIS must consider direct, indirect, and cumulative effects of the proposed alternatives. "Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8. The direct effects of an action are those "caused by the action and occur at the same time and place." 40 C.F.R. § 1508.8(a). The indirect effects of an action are those "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b). For example, "[i]ndirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." Id. Cumulative effects are the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. 40 C.F.R. § 1508.7. This analysis should address both beneficial and adverse impacts and should present the analysis in as specific of terms as possible.

1. Water Resources and Hydrology

The Proposed Action has impacts associated with the diversion and conveyance of water for consumptive use and to fill reservoirs. The DEIS must analyze the impacts of the Proposed Action on downstream hydrology, groundwater recharge and water quality. Much of the discussion to date has focused on winter flows in the Upper Deschutes (which are significantly lower than historic) and resulting impacts to species however flow fluctuation throughout the year is also key factor that impacts bank stability and riparian habitat for fish and the OSF. Under natural conditions, unregulated flows in the Deschutes River were near-constant with summer

flows below the Wickiup Reservoir area averaging 730 cfs and winter flows averaging 660 cfs).[18] Post-dam conditions result in fairly consistent winter flows of only 25 to 100 cfs and summer flow highs of 1,300 to 1,800 cfs out of Wickiup. The DEIS must address how the Proposed Action will impact the already highly-altered flow regime including changes to timing, magnitude, frequency and duration of flows. The analysis must include a variety of water year types, different storage scenarios for Bowman and Wickiup and pay particular attention to the effects during and after multiple dry year sequences.

The DEIS must also describe how the Proposed Action will affect downstream water users, including private well owners. The DEIS must quantify the extent to which the Proposed Action will decrease rates of recharge to groundwater aquifers either through hydrologic alteration (change in extent of floodplain inundation) or through conservation measures (lining of canals).

2. Water Quality

The DEIS must analyze the water quality impacts of the Proposed Action, and disclose whether the Proposed Action will violate water quality standards or otherwise substantially degrade water quality. Water quality parameters that should be considered include temperature, dissolved oxygen, pH, sedimentation, turbidity, nitrogen, phosphorus, and chlorophyll a. Additionally, the DEIS should analyze specifically how agricultural return water contributes to water quality impacts.

3. Geology/Geomorphology

The DEIS must analyze the geologic and geomorphic impacts of the Proposed Action. Potential impacts include modifications to channel form and structure, sediment dispersal, riparian vegetation and recruitment, and large woody debris recruitment as a result of water management infrastructure and a highly altered flow regime including extreme flow fluctuations.

4. Aquatic Resources

The DEIS must analyze the impacts of the Proposed Action on aquatic biological resources. The DEIS should use the analysis of water resource impacts, upstream and downstream, to define potential impacts to aquatic resources. The DEIS should analyze how Proposed Action effects (such as channel instability, increased fine sediment, reduced flow, altered frequency, magnitude, duration and timing of flow from historic conditions, high stream temperatures, poor

[18] Hardin-Davis 1991.

water quality, increased predation, increased susceptibility to pathogens, low aquatic food production and riparian habitat degradation) affect the aquatic resources noted below. The DEIS must also analyze the cumulative impacts of the Proposed Action on aquatic resources in the Deschutes watershed. See further discussion of cumulative effects, *infra*.

a. Bull Trout

Bull trout are listed as threatened under ESA. The DEIS must analyze how the Proposed Action, primarily altered flow conditions and poor water quality affects it's spawning and migration.

b. Steelhead

The Deschutes Steelhead population is part of the Middle Columbia River Distinct Population Segment (DPS) that is threatened under ESA. It is currently designated as a nonessential experimental population but that status will expire in 2025. The DEIS must analyze how the Proposed Action, primarily altered flow conditions and poor water quality, affects its spawning and migration. The DEIS should also analyze whether the Proposed Action affects brown trout populations and the resulting effects to Steelhead. For instance, the Proposed Action could contribute to conditions that are favorable to brown trout success and brown trout could be impacting juveniles on their downstream migration, during overwintering periods, or an early acclimation period. This may be particularly true for the Whychus system. An ODFW Camp Polk Meadow survey showed that brown trout were dominant in this reach of Whychus Creek and therefore could potentially be predating on juvenile steelhead.[19] Additionally, the DEIS should note whether steelhead are particularly likely to be impacted by climate change conditions given that they traditionally rear in freshwater for longer periods than other anadromous fish.

c. Sockeye

Sockeye are not listed under ESA but will be a covered species under the HCP. The DEIS must analyze how the Proposed Action impacts Sockeye including how it contributes to a lack of connectivity for upstream/downstream migration.

d. Middle Columbia spring-run Chinook salmon

[19] *See* Camp Polk 2014 Monitoring Summary noting that the results may suggest that "the main channel is not providing sufficient refuge for rearing juvenile steelhead leaving them susceptible to predation. Available at: www.deschuteslandtrust.org/files/hike-leader-files/udwc-camp-polk-meadow-2014-monitoring-report.

Middle Columbia spring-run Chinook salmon are non-listed but covered under the HCP. The DEIS must analyze how the Proposed Action, primarily altered flow conditions and poor water quality, affects its spawning and migration.

e. Redband trout

The Redband trout in the Deschutes Basin are part of the Columbia River redband trout subspecies. While Redband trout are not a listed species under ESA they have experienced a significant decline in range and abundance in the Deschutes Basin due to lack of habitat diversity. They are also listed as a sensitive species by the State of Oregon and the Forest Service. The DEIS should analyze how the Proposed Action affects habitat conditions for Redband trout.

f. Oregon Spotted Frog

Oregon Spotted Frog (OSF) is a federally threatened species under ESA and is a native aquatic species to the Deschutes. The DEIS must analyze how the Proposed Action affects habitat conditions for OSF including the extent and quality of wetland, side channel and floodplain inundated habitat. Additionally, the DEIS should analyze how the Proposed Action affects brown trout populations and the resulting effects to OSF.

5. Terrestrial Resources

The DEIS must analyze the effects of the Proposed Action on terrestrial resources. This includes terrestrial resources that may be impacted by degraded riparian habitat or that rely upon fish or frogs as prey. Potential impacted resources include river otters, osprey, bald eagles, song birds that utilize riparian nesting habitat and various benthic macro-invertebrates.

6. Recreation

The DEIS should disclose and analyze impacts of the Proposed Action to the current recreational uses of the Deschutes watershed.

7. Socioeconomic Impacts

The DEIS must analyze the socioeconomic impacts and benefits of its Alternatives. *See* 40 CFR 1508.8.

G. The DEIS must analyze the cumulative effects of the Proposed Action.

NEPA regulations specify that an EIS should consider any cumulative impacts of agency action. 40 C.F.R. § 1508.25(c). "Cumulative impact" is defined as "the impact on

the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency... undertakes such other actions." *Id.* § 1508.7.[20] A "likely" or "reasonably foreseeable" effect is interpreted to mean, "that the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision…."[21] Additionally, more than a cataloguing of related past, present, and future actions is needed; the DEIS must provide detailed analysis.[22] "[V]ery broad and general statements devoid of specific, reasoned conclusions," will not suffice.[23]

Cumulative impacts analysis requires a geographic and temporal scope of analysis sufficient to determine the significance and incremental impacts of the Proposed Action on resources of concern when considered in combination with other past, present and reasonably foreseeable future actions. Hydrology, water quality and aquatic resources in the Deschutes River watershed are likely significantly impacted by many past and present actions, both individually and cumulatively. In the Upper Deschutes particularly there has been a significant and cumulative degradation of aquatic habitat for sensitive species such as bull trout, OSF and redband trout since the major dams (Bowman, Wickiup) went into service and were operated primarily for irrigation needs. The cumulative effects analysis should situate the effects of the Proposed Action in the context of the aquatic resources of the Deschutes watershed under today's conditions. These aquatic resources are seriously degraded, and some native species are at an enhanced risk of extinction. The impact of incremental modifications to flow and habitat under these degraded conditions is greater than it would be under conditions where the aquatic ecosystem were not already so damaged.

Accordingly, the DEIS should take into account all past, present and reasonably foreseeable future activities in the watershed. Relevant activities are included below.

---

[20] Sierra Club v. Marsh, 976 F.2d 763, 767 (1st Cir. 1992).

[21] Id. A Project need not have received final approval to be "reasonably foreseeable." Surfrider Foundation v. Dalton, 989 F. Supp. 1309, 1324 (S.D. California 1998).

[22] Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 810 (1999). The court explained:

> [The EIS] must analyze the combined effects of the actions in sufficient detail to be "useful to the decision maker in deciding whether, or how, to alter the program to lessen cumulative impacts' [*quoting City of Carmel-By-The Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997)]. Detail is therefore required in describing the cumulative effects of a proposed action with other proposed actions. *Neighbors of Cuddy Mountain*, 137 F.3d at 1379; *see also Blue Mountains Biodiversity Action v. Blackwood*, 161 F.3d 1208, 1214-15 (9th Cir. 1998).

[23] Id. at 811.

- Other management activities of all State and Federal agencies. This includes Bureau of Land Management and Forest Service resource management activities relating to roads, fire (fuels management and suppression), and timber harvest.
- Road building (the excess sediment it generates has a high potential for take through impacts to spawning and rearing habitat).
- Forest road culvert instillation in regard to fish and other aquatic species. Passage has proven to be a significant problem in all Forest Service regions. Culvert inventories have shown as much as 75% of culverts do not pass fish at least some time of the year.
- Climate change which will result in rising temperatures, earlier snowpack melt, reductions in snowpack and reductions in stream flows in late summer. Some information on this topic is being generated in the Basin Study.
- Other hydropower operations and fish passage impediments (such as Pelton Round Butte facilities).
- Other water diversions (both surface and groundwater) that are not covered under the HCP.
- Ocean conditions.
- Non-point source discharges that are not covered under the HCP.
- Drought conditions which are expected to increase in frequency and intensity in the future.
- Projected population growth and expected conversion of additional land from agricultural use to urban use.
- Fires of increasing frequency and severity. Future fires may see more "high intensity" burns that can significantly affect aquatic resource habitat and result in after-effects such as flooding and erosion. Fire suppression activities can also significantly affect aquatic resources.
- Reasonably foreseeable fish passage projects such as Opal Springs Fish Passage Project

H. <u>The DEIS must identify reasonable mitigation measures.</u>

NEPA requires that "all relevant, reasonable mitigation measures that could improve the Proposed Action …be identified," including those outside USFWS jurisdiction.[24] This includes feasible measures for any adverse environmental impact, even those that are not considered significant.[25] Therefore, the DEIS must include an analysis of relevant, reasonable mitigation measures. The description of any such mitigation measure should include key components such as timing of implementation, cost to implement, possible location and net impacts/benefits to specific species and habitats. Specific mitigation measures that should be considered are described in more detail in section (III) below.

III. USFWS must ensure that the HCP meets the legal requirements of the Endangered Species Act.

The DEIS must clearly describe how the HCP will meet the requirements of the Endangered Species Act (ESA). To do so, the HCP should articulate clear measurable "SMART" objectives for each affected species and clearly articulate how the Proposed Action will achieve those objectives and what scientific assumptions have been made to support that conclusion.

A. Incidental Take Permit (ITP) Requirements

Section 10(a) of the ESA provides criteria for issuing Incidental Take Permits (ITP) for the take of endangered or threatened species. In particular the HCP must articulate the likely impact of the proposed taking of species and then must show that the projected take will be minimized to the "maximum extent practicable" and mitigated. 16 U.S.C. section 1539(a)(2)(B)(ii). Additionally, the HCP is required to show that the Applicant considered reasonable alternatives to the Proposed Action to minimize and mitigate take (a separate analysis from the NEPA alternatives analysis).

1. Impact of the Proposed Taking

The HCP must quantify the level of expected take and describe its method for doing so. It must then assess how the take impacts each of the Covered Species. This should include a description of each Covered Species habitat requirements and an analysis of how the Covered Species are projected to react to changes in habitat caused by the Covered Activities. The HCP

[24] *See* NEPA's 40 Most Asked Questions, 19b, *available at http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm.*
[25] 40 CFR section 1502.16(h).

must be clear where there are information gaps or other uncertainties that may compromise this analysis and how those uncertainties were addressed to reach a conclusion.

2. **Minimize and mitigate**

In order to ensure that impacts are adequately minimized and mitigated, the following measures should be considered for inclusion in the HCP. Note, pursuant to NEPA, all relevant mitigation measures must be identified (even if they are outside the jurisdiction of USFWS).

- Legally protected instream flows (the DEIS should describe the legal mechanisms that will be used to ensure permanent protection of instream flows);
- Piping and lining of canals, laterals, ditches;
- On-farm efficiencies (flood to pressurized sprinkler systems, upgrading sprinkler nozzles or systems that better match water demand to crop need);
- System-wide water use efficiency to improve reliability and increase winter/summer flows in Deschutes;
- Measures to address temperature and water quality concerns in the Crooked to enhance habitat needed for juveniles and create successful spawning conditions (actions such as proposed Lytle Creek Project where small wetlands will be constructed on private land to help filter agricultural runoff before it enters the stream);
- Floodplain connectivity restoration actions;
- Revegetation of degraded riparian areas;
- Large Woody Material Management Plan and other measures to restore instream habitat;
- Acquisition of property, water rights and conservation easements as appropriate;
- Consideration of fishing regulation changes (to target brook trout and brown trout which prey on or compete directly with all the species addressed in the HCP);
- Fish screen installation on unscreened diversions;
- Fish Passage projects (ex., Prineville Country Club);
- Reintroduction of Bull trout above Big Falls given that they have been extirpated since the mid 1950's as a result of many factors including the Upper Deschutes dams and resulting irrigation flow regimes; and
- Measures to institute a more natural flow regime that reduces extreme flow fluctuations and restores channel structure and function.

3. **Funding and Assurances**

The HCP must disclose how each required conservation measure will be developed, funded and monitored for effectiveness. The HCP must contain legally adequate assurances from the Applicant that measures will be implemented and adequate funding for the plan will be provided. The details of the funding assurances should be provided in the draft HCP/DEIS. Additionally, to the extent enhanced instream flows are being considered as a conservation measure, the HCP should detail how the water releases will be legally protected instream and by what mechanism.

4. Recovery

The HCP must demonstrate that taking will not appreciably reduce the likelihood of the survival and recovery of species in the wild. To support this finding, the DEIS and HCP should include information for each Covered Species on the points below.

- The percentage of total species' range or habitat that occurs in the HCP Plan Area;
- Whether the HCP Plan Area is critical to and/or supports essential life cycle functions of each Covered Species;
- Any unique attributes of the Covered Species (e.g., source population) or Plan Area (e.g., climate refugia) that make the Plan Area critical to the future success and resiliency of the Covered Species.

The HCP should quantify how the proposed Conservation Strategy will affect the species outside the HCP Plan Area and throughout its range.

B. Anticipated Benefits

The HCP must describe the benefits to all Covered Species anticipated to result from implementation of the Conservation Program. This includes an analysis of benefits at the individual, population and species scale. The analysis should also clearly describe the timing and duration of the benefit (when should benefits materialize and for how long). Additionally, the HCP should describe how the magnitude, timing or duration of benefit may change with anticipated future conditions (such as climate change). This benefits analysis should be used with the impacts of the taking analysis to determine the net effects of the HCP.

C. Changed Circumstances and Unforeseen Circumstances

The HCP must establish clear procedures to deal with changed circumstances and unforeseen circumstances. In the case of changed circumstances, the potential changed circumstances should be identified and the proposed response described. In the case of unforeseen circumstances, the HCP should clearly articulate the process that will be used to address any that arise during the term of the HCP.

D. Proposed Term

The duration of the HCP is proposed to be between 20 and 40 years.[26] A final determination on the duration should be informed by a risk and certainty analysis. The HCP Plan area is highly altered from historic conditions and species response to proposed measures will likely be based on significant assumptions. To the extent the predicted species response does not materialize, it presents significant risk to the continued health and persistence of the Covered Species particularly over the long-term. Additionally, the next several decades are expected to be dynamic with more frequent and varied changes resulting from climate change. Given these factors, a shorter timeframe seems to be warranted. However, the DEIS and HCP should clearly describe the factors that are ultimately used to justify the final permit duration.

Regardless of the term, the HCP should be accompanied by a rigorous adaptive management regime (however it is extremely important if a longer-term is selected). For instance, the Conservation Strategy in the HCP should define what it is trying to accomplish through biological goals, what steps will be taken to track progress at meeting the goals and how implementation of the HCP will be adjusted through adaptive management if the biological goals are not being met. In essence, the adaptive management program must be guided by the biological needs of the species which must be quantified to allow for rigorous assessment of whether or not they are being met. This allows the HCP to respond to uncertainty and lack of information without the species shouldering all of the risk.

IV. Conclusion

TU looks forward to continued collaboration with the USFWS, the DBBC and the City of Prineville and others to develop and implement water management solutions in the Deschutes watershed. TU appreciates the opportunity to comment on this effort. Please contact us with any questions.

---

[26] F. Reg. 34327.

Chandra Ferrari
Oregon Senior Policy Advisor
Trout Unlimited
cferrari@tu.org
(916) 214-9731

Shaun Pigott
President
Deschutes Redband Chapter of Trout Unlimited
spigott@teleport.com

Mike Tripp
Board Member and former President
Deschutes Redband Chapter of Trout Unlimited
mtripp@bendcable.com

September 20, 2017

U.S. Fish and Wildlife Service
Bend Field Office
Attn: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

VIA EMAIL: peter_lickwar@fws.gov

RE: Deschutes River Basin HCP-draft EIS

Dear Mr. Lickwar,

I am providing comments on the United States Fish and Wildlife Service's Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon.

I am a farmer in North Unit Irrigation District, and farm just outside of Metolius, and I raise a variety of crops. I raise mainly specialty seed crops some of which are parsley seed, carrot seed, sugar beet seed and hay and grains as rotation crops. My livelihood as a commercial farmer depends upon water and management of resources. Any reductions in water to my farm could severely impact my ability to make ends meet and stay in business, and continue to provide for my family in Jefferson County.

HCP water management decisions for the Deschutes Basin will be very critical to my operation. With North Unit Irrigation District having the most junior water rights of the irrigation districts in the Deschutes Basin it key that the HCP consider the conservation practices and expense that North Unit patrons have been making for over 30 years. We have been very progressive stewards of the land and water even prior to the spotted frog at great expense. **Irrigation management is critical to us having junior water rights.**

Jefferson County's economy is supported by Agriculture. I was raised here and have raised my family here. My family is active in our local community and provide donations for various community events, let alone what I provide to the economy in being a business with employees. If Jefferson County didn't have the agriculture community as the backbone you would see many socio-economic changes in the community. Having enough water to irrigate our farmland is key to preventing the whole county from suffering an economic loss.

Every farm operation is unique in this County. **The one thing that is consistent is the need for stable water flows and amounts to know how to plan for what crops to grow.** It is imperative for the USFWS's HCP to consider the economic impacts of even the smallest changes in irrigation management or availability.

Thank you for the opportunity to provide comments and I am happy to provide you with any information on impacts to my farm from the HCP, Please feel free to contact me if you have any questions.

Sincerely,

Bob Vanek

Cc maryannenash@oregonfb.org and mbritton@northunitid.com

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:20 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Robin Vora** [redacted]
Date: Wed, Sep 20, 2017 at 12:54 PM
Subject: Deschutes River Basin HCP-draft EIS
To: peter_lickwar@fws.gov

Peter, thank you for calling me back and explaining further the Deschutes River Basin Habitat Conservation Plan and the implications of an incidental take permit. Thank you for the opportunity to comment on the development of that Conservation Plan.

For me the issue is the amount of flow needed in the river at all times of the year to restore threatened and endangered species to at least population goals needed to get them, or their local populations, off the endangered species list. We need to restore the Deschutes River and tributaries to something closer to a naturally functioning system, including maintenance of riparian vegetation. From what hydrologists tell me this might require maintaining 500-600 cfs in the main stem of the Deschutes River. The Middle Deschutes may require at least 250 cfs during the irrigation season to maintain fisheries and recreation values important to the community. Upper limits may also need to be placed on river flows in the Upper Deschutes during irrigation season to reduce adverse impacts on Oregon spotted frog. Also tied to this is reservoir management at critical times of the year impacting threatened and endangered species. All the life history needs of these species must be provided for adequately. Impacts of invasive and exotic species must be considered, including bull frog, reed canarygrass, and possibly brown trout, Projected climate change also needs to be factored into this analysis because reduced snowfall, and more rain on snow runoff, may result in lower water availability for reservoirs and less water input from springs. It is important the Deschutes River and its tributaries receive permanent instream water rights needed to conserve threatened and endangered species over time.

I look forward to further opportunities to participate and comment as this Habitat Conservation Plan is developed. I represent only myself in submitting these comments.

Sincerely,
Robin Vora
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146

September 22, 2017

Peter Lickwar
USFWS Bend Field Office
63095 Deschutes Market Road
Bend, OR 97701-9857
peter_lickwar@fws.gov

RE: Comments, Scoping of Deschutes Basin Habitat Conservation Plan

Dear Mr. Lickwar,

We submit these comments in response to the scoping notice for the Deschutes Basin Habitat Conservation Plan ("DBHCP") on behalf of WaterWatch of Oregon and the Center for Biological Diversity.

WaterWatch of Oregon is a river conservation group that works to protect and restore streamflows statewide. WaterWatch has been working on flow issues in the Deschutes Basin for three decades. The Center for Biological Diversity ("Center") is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center is supported by more than 1.5 million members and online activists throughout the United States, including thousands in Oregon that rely on us to protect the Oregon spotted frog and other species that depend on the Deschutes River.

WaterWatch and the Center have significant concerns about transparency in the process for developing the DBHCP and whether the plan will ensure habitat features for Oregon spotted frog and listed fish are maintained and restored. We are writing in part to request that USFWS include consideration of an alternative that would optimize conditions for the frog, fish and the overall health of the river, which has long been sacrificed to development and in many cases wasteful irrigation practices.

Lack of transparency in development of the DBHCP

The DBHCP planning process began ten years ago (2007). WaterWatch served on the original working group that was convened at this time. While envisioned as an open and public process, with assurances given to participating NGOs that they would be active and valued participants, in reality, most of the work has been conducted behind closed doors between the DBBC and federal permitting agencies.

In the fall of 2014 the DBBC released its draft conservation measures (Draft Chapter 5) to the working group for comment. Working group members were not involved in the drafting of this document. This document was roundly criticized by NGOs and state and federal agencies alike, with one agency commenter noting that the conservation measures were "biologically insufficient". Despite assurances to the contrary, the working group has not been included or involved in discussions to amend that critical chapter. To this day, the DBBC has not released to the working group and/or the public an updated draft of the conservation measures that the DBBC will be proposing in the DBHCP.

The scoping process continues the closed door process. The DBBC (and therefore USFWS) did not release to the public a draft DBHCP for review as part of this scoping process. After ten years of process and study, at a cost of more than 3.4 million public dollars, the draft DBHCP should have been publically distributed prior to this limited public scoping comment period. Holding that document from public review severely undercuts substantive comment as it is impossible to know what the DBBC's proposed actions under the draft DBHCP include. The public is being asked for input in a vacuum. Under these circumstances, it is difficult to critique what might be the approach contemplated by the DBBC and impossible to propose responsive alternatives. In a nutshell, holding a scoping public comment period absent the basis of the scoping exercise and the result of ten years of work renders the 30 day NEPA scoping process of limited use to the public and consequently likely of limited use to the agencies for doing anything other than what they and DBBC have already discussed.

Of particular concern, it is impossible to know if the DBBC has addressed previous informal (non-NEPA) comments submitted to them on the draft Chapter 5 Conservation Measures distributed to the HCP Working Group in the fall of 2014. Comments to this draft provided by agencies, tribes and NGOs pointed out significant inadequacies in the effects analysis, baseline data/information and conservation measures, among other things. We urge the federal agencies to review the comments made by USFWS, NOAA, ODFW, the Confederated Tribes of the Warm Springs Reservation/PGE, DEQ and WaterWatch as part of its NEPA scoping, and include all these documents in the administrative record. WaterWatch's comments are attached to this email for reference.

Because the public is not being given the opportunity to review the draft DBHCP as part of this scoping process, our comments will be fairly general as, again, without an actual document it is virtually impossible to suggest responsive alternatives and/or provide specific comment to the draft DBHCP.

The HCP Must Put the Survival and Recovery of Listed Species and the Health of the Deschutes First

As noted in the USFWS Habitat Conservation Handbook (hereinafter Handbook), the conservation strategy is the foundation upon which the rest of the HCP is built. *See* USFWS: Habitat Conservation Handbook, 2016 at 9-2.

The HCP must be founded on the biological needs of a species. Id. Id. at 9-3. To that end, the HCP must set forth clear biological goals and biological objectives. Id at 9-10. Biological goals should be developed by species experts, listing/recovery team members, climate change experts and state fish and wildlife experts. Id. at 9-6. Biological goals should be included for each covered species.

Biological objectives provide a foundation for determining goal conservation measures, monitoring and effectiveness evaluation. Id. at 9-10. Biological objectives need to be specific, measureable, achievable, results oriented, and time fixed. Id. Both biological goals and objectives must be sufficient to provide for the recovery of each covered species, per ESA section 10.

Conservation measures describe the specific actions that permittee will implement to achieve the biological objectives in support of the HCP goals. Id. at 9-12. Conservation measures, in all cases, must be based on the biological needs of the species. Id. at 9-13. Conservation measures must avoid, minimize and/or mitigate the impacts to the maximum extent practicable, in that order. Id.

As noted, the DBBC did not release a draft DBHCP for the USFWS to include in its scoping so it is impossible to know exactly what is proposed. That said, it is worth noting that the conservation measures in the Draft Chapter 5 released to the HCP working group in fall of 2014 did not meet the standards above and appeared to be largely based on what the Districts were willing to do rather than the biological needs of the covered species. The comments at the time demonstrated consensus on the Draft Chapter 5 inadequacies. The EIS should evaluate a range of alternatives consistent with law and regulation that maintains and recovers listed species as required by the Endangered Species Act.

We hereby request that the EIS evaluate alternatives that set biological goals, objectives and conservation measures that optimize Deschutes River flows for Oregon Spotted Frog and listed fish. As a starting place, we request that the Service use the two alternatives we developed in support of our preliminary injunction motion that were developed by hydrologist, Greg Kamman and biologist and frog expert, Terry Simpson. Consisting of "run-of-the-river" and "supply-based" proposals (see declarations of Greg Kamman and Terry Simpson attached to these comments), these alternatives seek to maximize reservoir stability, which is important to frogs breeding in the reservoirs, to provide early spring flows that inundate riverine wetlands used by breeding frogs, to reduce the impact of Fall drawdown on frogs utilizing off-channel habitats, and to provide winter flows that inundate off-channel winter habitat. These proposals also have the benefit of more closely mimicking the natural hydrograph of the river, which would benefit both listed fish and the overall health of the river, which has suffered under existing management that has more or less turned the river's hydrograph on its head.

Evaluation of HCP Alternatives

In addition, we have a number of concerns about how individual alternatives are analyzed for the EIS and ultimately for evaluating the conservation value of each alternative.

River flows are the most critical management target for ensuring sufficient habitat for the frog and listed fish and thus how flows are measured and maintained is key to the success of the HCP. Flow rates should be set on a bi-weekly or monthly basis, and meet the biological needs of both fish and frogs as determined by state and federal fish and wildlife agencies and other species experts. Averages should not be used. Flows should be protected with instream water rights or other legal mechanisms to ensure the water remains instream. For fish, state instream water rights and/or instream water right applications can serve as a minimum surrogate for determining quality habitat conditions, in addition to other information developed by state agencies (i.e. ODFW flow studies for the Crooked River). For frogs, flows should be evaluated based on data generated by USFWS, USFS, ODFW, Terry Simpson (member of HCP OSF technical team) and River Design Group and should address OSF biological needs during

all life stages (breeding, overwintering, etc), including both minimum and maximum flows. Included in this alternatives analysis should be detailed adaptive management provisions with specific triggers for action to deal with uncertainties surrounding OSF biological needs.

As to the maximum extent practicable standard, the EIS should evaluate alternatives under a standard of technological and/or implementation practicability absent cost. There is widespread agreement among many sectors that most flow restoration goals in the Deschutes basin are achievable via technological and operational efficiencies, as well as water management (i.e. duty reduction, etc) and water right changes (i.e. instream transfers). The EIS should analyze the full range of efficiency, management and water transfer measures (on farm, conveyance, water management, duty reduction, etc) that will fully avoid adverse impacts to species, absent cost, to determine practicability. In other words, the EIS should evaluate an alternative where avoidance of all harm to species is achieved. Additionally, the EIS should analyze an alternative where the combination of avoidance, minimization and mitigation leaves no remaining adverse impacts on the species, in other words, all impacts are offset. And finally, the EIS should analyze an alternative where a net benefit is achieved that will enhance species chances of recovery, as the legislative record for the ESA indicates was the intent of Congress. As noted, the EIS analyses of these alternatives should not be constrained by what the applicant deems economically practicable or feasible.

Duration of DBHCP

The DBHCP should be no more than 20 years in length[1]. Given that no draft DBHCP was distributed to the public combined with the lack of meaningful conservation measures in the 2014 Chapter 5 draft, it is unclear if the DBBC has developed a draft DBHCP that would meet the biological needs of the species for twenty years let alone fifty. Moreover, there are many uncertainties facing the Deschutes basin with regards to climate change. And finally, the need for additional monitoring/study of the OSF and how changes in river flows affect its habitat would argue against a long term ITP/HCP. Given existing uncertainties, we are doubtful that the services could ascertain whether the DBHCP adequately addresses the impacts to covered species fifty years out. The services should evaluate an alternative that limits the DBHCP to twenty years in length.

Critical Habitat

In May 2016 the USFWS designated numerous areas in the proposed "covered area" of Upper Deschutes Basin as critical habitat for the OSF (see Deschutes Critical Habitat maps at https://www.fws.gov/wafwo/articles.cfm?id=149489682). Under Section 7 of the ESA, federal agencies must ensure that their activities are not likely to result in the destruction or adverse modification of designated critical habitat. Handbook at 7-15. Thus, the HCP must ensure that covered activities avoid adverse modification to critical habitat. Id. In designating critical habitat, the USFWS rejected the DBBC's request for an exclusion.

[1] Note, in the working group the option of allowing for a 20-30 year HCP with the option of 10 year extensions (up to the 50 year request) was discussed. The cornerstone of this concept was that the ITP/HCP would expire unless conservation goals/milestones were met. Only if these milestones were met would the ITP/HCP be extended. If the services are contemplating a longer HCP we would urge them to incorporate this concept. In other words, it would not be a 50 year HCP, but rather a 20 year HCP with the opportunity to extend in 10 year increments only if required conditions were met. If conditions/goals/measures were not met, the HCP/ITP would expire.

Additional considerations

Dry year management: The DBHCP should include robust dry year objectives, goals and conservation measures to ensure that biological flows, among other things, for listed species are provided. The EIS should evaluate dry year alternatives where biological flows for fish/OSF are met, regardless of what is proposed by the Applicants in their draft DBHCP.

Climate change: Any and all alternatives analyses should include an analysis of the alternative under climate change scenarios. Moreover, the services should require that the DBHCP identify potential climate-related changes and develop specific management responses.

Conclusion: Again, given that the draft DBHCP was not distributed for public comment, it is very difficult to provide substantive comment. That said, we would urge that the EIS provide rigorous analysis of applicants' presented effects, biological needs assessment, biological goals and objectives, and conservation measures to ensure that they fully address the actual impacts on listed species and meet the biological needs of these species. The EIS should take a hard look at the environmental consequences of approving the DBBC DBHCP.

We would also urge additional alternatives analysis as noted above. However, as noted at the outset, because of the difficulty of providing detailed suggestions on additional alternatives given the fact that the draft DBHCP has not been released to the public, we reserve the right to suggest further alternatives for analysis during the EIS public comment review period.

Sincerely,

Kimberley Priestley
Sr. Policy Analyst
WaterWatch of Oregon

Noah Greenwald
Endangered Species Director
Center for Biological Diversity

September 22, 2017

U. S. Fish and Wildlife Service
Bend Field Office
Attention: Peter Lickwar
63095 Deschutes Market Road
Bend, Oregon 97701-9857

RE: Deschutes River Basin HCP-draft EIS

My name is Mike Weber and I am the managing partner of Central Oregon Seeds, Inc. (COSI) in Madras, Oregon. I am submitting this comment letter to the U.S. Fish and Wildlife Service pursuant to the Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon (82 Fed. Reg. 34326, July 24, 2017).

My company has been in business since 1979. Our core activities are to multiply proprietary grass and vegetable seed varieties through our network of local farmers. This is a highly specialized model and relies on many factors to achieve success, grow, and maintain this high standard.

COSI has increased its local farmer contract acreage of hybrid carrot seed production to the extent that we account for approximately 40% of the world's seed needs annually. All of the major vegetable breeding seed companies in the world rely on COSI to accomplish this with its farmer base each year. This is a huge opportunity and also a significant responsibility. We are uniquely positioned to continue this level and possibly increase our market share in years to come. It goes without saying that adequate irrigation water delivered from NUID to the farmer patrons is essential for dependable production each year. The drought years with low reservoir levels can become very problematic with rationed water allotments for all crop water requirements. COSI farmers have made the improvements to water efficiency by using drip irrigation on 90% of their fields. COSI sales of hybrid carrot seed for 2017 is $30-35 million.

On behalf of COSI and its highly skilled and valued family farms, we would implore the U.S. Fish and Wildlife Service to do a thorough and comprehensive evaluation of the socioeconomic impact analysis. We hope that it is not minimized or lost as part of the overall effort of the Deschutes Basin HCP.

If there is additional input needed, please don't hesitate to ask. Thank you again for your considering my comments.

Sincerely,

Mike Weber
Managing Partner

CENTRAL OREGON SEEDS, INC.

1747 NW Mill Street
Madras, OR 97741

Phone (541) 475-7231
Fax (541) 475-7233

Weidner, Emily <emily_weidner@fws.gov>

Fwd: Deschutes River Basin HCP - Draft EIS

Lickwar, Peter <peter_lickwar@fws.gov> Mon, Sep 25, 2017 at 9:21 AM
To: Emily Weidner <emily_weidner@fws.gov>

---------- Forwarded message ----------
From: **Mike Taylor** [redacted]
Date: Wed, Sep 20, 2017 at 3:30 PM
Subject: Deschutes River Basin HCP - Draft EIS
To: peter_lickwar@fws.gov

Dear Mr. Lickwar:

The Wild River Owners Association (WROA) wishes to submit the comments below to the Deschutes River Basin HCP - Draft EIS. Wild River is a private residential development that straddles the Upper Deschutes River at Pringle Falls. WROA includes approximately 150 privately owned homes and undeveloped lots with over 200 residents. Our members care deeply for the Deschutes River, act as active stewards for the portion that flows through Wild River, and fully support the conservation and restoration aspects of the HCP for the Oregon Spotted Frog, other listed species, and all native river and riparian animals and plants.

Please consider the below comments as the HCP is developed:

- WROA is concerned about the native aquatic life of the Deschutes River, including the listed species but also other wildlife that is dependent on the river including, but not limited, to macro-invertebrates, non-listed native fish (especially the redband trout and mountain whitefish), and native aquatic and riparian plants.

- WROA strongly supports the concept that the river should have the most senior water rights, coming ahead of all other users. We suggest consideration of using a modified “percentage of available water” approach as a method for setting the ongoing flow levels. For example, in a given month and/or year the river would be permanently guaranteed a minimum flow at WICO of 300 cfs or 33% (or some negotiated percentage) of available water, whichever is more. This approach would allow the river and its inhabitants to survive and would provide a fair and reasonable allocation of water in wet, dry or average years.

- We encourage the HCP process participants to engage more fully with private landowners and residents who actually live in the Upper Deschutes area. To our knowledge there have been no HCP-related public meetings south of Bend. Sunriver would be a great location to hold a public meeting that is convenient for Upper D people.

- Many of our residents have an interest in fishing and thus are concerned that the life cycle needs of native fish species be addressed and met in the HCP.

- Many of our residents engage in recreational activities on the river. The HCP should take into account the needs and impacts of river recreation as flow regimens are realigned.

- As a user of ground water (we have a community well) we ask that potential impacts to groundwater be incorporated into the HCP.

- As a group, WROA residents believe strongly that restoration of the river environment should be part of the HCP and should be funded, at least partially, by the applicants, possibly using a portion of revenue generated by in-conduit hydro.

- Returning the flow of the river to a more natural level throughout the year should be a priority. We would like to see significant changes that make summer flows decrease and winter flows increase. Monthly target flow levels should be established and enforced for the duration of the permit requested by the applicants.

- We feel that an appropriate time frame for the permit would be in the 30 – 40 year range.

- The HCP should consider the use of citizen science and citizen stewardship programs for helping to monitor recovery progress. A number of WROA residents would participate as volunteers.

- WROA supports piping canals and laterals for the purpose of conserving water and restoring flows to the Deschutes River. The water conserved from the projects should permanently stay in the river.

- WROA does not support the installation of in-stream hydro in Wickiup Dam unless screening adequate to keep non-native species out of the river below the dam are available and installed.

- We feel that caps on leasing water back to the river should be removed.

- WROA supports the implementation of all on-farm efficiencies that reduce the need for river water.

- WROA supports the use of market tools, in-stream leasing, fallowing land, tiered pricing, and other incentives and options for conserving water.

Thank you for the opportunity to make input to the HCP process!

Sincerely,
Mike Taylor

Mike Taylor
President, Wild River Owners Association
[redacted]

--
Peter Lickwar
USFWS Bend, Oregon
Phone 541-383-7146