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Meeting Notes

Yakima River Basin Water Enhancement Project Workgroup

September 20, 2018

Yakama Nation Legends Casino and Hotel, Toppenish, WA

Welcome, Introductions and Agenda Overview

Ben Floyd, White Bluffs Consulting, welcomed the Yakima River Basin Water Enhancement Project (YRBWEP) Workgroup members and other attendees. Tom Ring, serving as the Workgroup alternate for Phil Rigdon, welcomed the Workgroup to the Reservation and new conference facility on behalf of the Yakama Nation. Ben introduced new Workgroup members and attendees including Erick Walker and Kathryn Furr, U.S. Forest Service, Ben Woodward, Kennewick Irrigation District, and Commissioner Cory Wright, Kittitas County. All other attendees introduced themselves by name and affiliation.

The following notes summarize the YRBWEP Workgroup presentations and the public comments. For details, please see the full presentations available on the project website:

<http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/index.html>.

Implementation Committee Update

Tom Tebb, Washington Department of Ecology: Federal legislation on the Yakima River Basin Integrated Water Resource Plan (Integrated Plan) is contained in House Bill 4419 and Senate Bill 714. The bills need to pass through conference committee before they can be acted on by the full House and Senate. Senator Patty Murray recently introduced programmatic legislation for a continuing resolution “minibus” for the Bureau of Reclamation of \$345 million. Action on that legislation is expected by the end of December. Tom said that the Implementation Committee expects to refocus on Washington D.C. activities after the November election, and will continue advocating for passage of the Federal legislation.

Workgroup Discussion:

Alex Conley, Yakima Basin Fish and Wildlife Recovery Board: How will these additional minibus funds, proposed by Senator Murray, be allocated?

- *Tom Tebb: The funds are for the 17 western States, and Reclamation will draft a report to Congress within sixty days after bill passage indicating how to allocate these funds.*

Public input on this agenda item:

None.

Executive Committee Update

Melissa Downes, Washington Department of Ecology: Melissa presented a funding summary and forecast for the Integrated Plan. Ecology is currently working on its 2018 Cost Estimate and Financing Plan. Melissa described the estimated 30-year implementation costs, which are broken out into three development phases (10 years each). She then focused on the initial development phase that is currently under way, outlining the State, Federal, and other shares of funding for Integrated Plan projects. Finally, she presented the draft 2019-2021 State funding request. It is currently at the State Office of Financial Management, and if approved it will then be incorporated in the Governor's budget, expected in December. Wendy Christensen, Bureau of Reclamation, Columbia-Cascades Area Office, presented information on the Federal funding table. On average, there has been approximately \$50 million in Federal funding from various Federal agencies spent on projects consistent with the Integrated Plan since 2011. In fiscal year 2018, Reclamation received approximately \$28 million including Water Infrastructure Improvements for the Nation (WIIN) Act funding for the Cle Elum Pool Raise (\$2 million) and Kittitas Reclamation District Upper Yakima System Storage Feasibility Study (\$2.5 million).

Workgroup Discussion:

None.

Public input on this agenda item:

Chris Maykut, Friends of Bumping Lake: Chris requested the 30 year costs for surface storage projects (approximately \$2.2 billion), be broken out by projects. Chris also asked about why the enhanced conservation and market reallocation elements were reduced in the anticipated 2019-2021 State Budget.

- *Melissa Downes: Further detail on project-by-project costs is available in the full report. Peter Dykstra, Plauche & Carr LLP: The projects funded in the conservation and market reallocation elements have received funding matches from outside sources, thus requiring less funding from Integrated Plan sources.*

Elaine Packard, Sierra Club: Why did funding for the fish passage element double between the 2017-2019 biennium and the 2019-2021 biennium?

- *Tom Tebb: Fish passage projects are in the construction phase, which requires increased spending during a concentrated period of time to complete the facilities.*

Technical Work Updates

Wendy Christensen described the status of the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus-to-Kachess Conveyance (KCC) environmental review process. Reclamation received approximately 6,000 comments on the 2015 Draft Environmental Impact Statement and 2018 Supplemental Draft Environmental Impact Statement. Reclamation and Ecology are working to respond to the comments and make appropriate edits to prepare the Final Environmental Impact Statement. They

are also working on an Endangered Species Act consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service for the KDRPP and KKC projects.

1 – Cle Elum Pool Raise

Teresa Hauser, Cle Elum Pool Raise Project Manager, Bureau of Reclamation, Columbia-Cascades Area Office, described the current status of the Cle Elum Pool Raise. This project fits into the structural and operational changes element. Construction of shoreline protection at Speelyi Beach Day Use Area is underway. Teresa showed images of construction activities at that site, including placement of log revetments by Reclamation's Yakima Field Office. A contract has been awarded for raising dike 2, extending the boat ramp, toilet replacement, and concrete pathway to the shoreline. The contractor will start October 1, 2018, at which time the facility will be closed for public access due to the active construction zone.

2 – Cle Elum Dam Fish Passage

Richard Visser, Cle Elum Dam Fish Passage Project Manager, Bureau of Reclamation, Columbia-Cascades Area Office, described the current status of the Cle Elum Dam Fish Passage project. The secant pile vault was recently completed, two months ahead of schedule. The downstream passage tunnel is currently under construction. The Gate/Helix and Intake Contract has been awarded on schedule. It is a \$75 million contract cost shared by Reclamation and Ecology. Construction of these features will take place over the next 3 to 4 years.

3 – USGS Studies

Richard Visser provided an introduction to the U.S. Geological Survey Studies that Tobias Koch, USGS, will present on at the next Workgroup meeting. The three studies are:

1. 2017 Whooshh Transport System Results

The USGS report is complete. It compares Whooshh system survival rates to the trap and haul method. Reclamation has chosen to continue with trap and haul because it is about 90% to 95% successful while the Whooshh system survival rates, according to the study were approximately 75% successful. Reclamation is designing the trap and haul facility with the ability to install Whooshh at a later date

2. 2018 Sockeye Tracking – Roza to Cle Elum

Twenty fish were tagged at Roza dam, and all were then observed at Cle Elum dam. This is great news as the fish were not diverted by other tributaries or diversions.

3. 2018 Lower Yakima River Salmon Tracking

Pat Monk, Bureau of Reclamation: This study has previously been called the Lower River Smolt Survival Study. It focuses on Chinook and steelhead. The study range is from Wapato Dam downstream to the mouth of the Yakima River. Pat provided a high-level summary of 2018 data. The survival analysis will take place in October, with final results ready for presentation in December 2018.

At the conclusion of the technical work update, Wendy Christensen distributed posters commemorating the completion of the secant pile vault contract at Cle Elum Dam.

Workgroup Discussion:

None.

Public input on this agenda item:

Chuck Klarich, Yakima Basin Storage Alliance: What is the total estimated cost of the Cle Elum Pool Raise?

- *Teresa Hauser: Approximately \$20 million.*

Tom Elliot, Yakama Nation: Do we have the ability to track the region the steelhead smolts are coming from?

- *Pat Monk: This would be useful and could potentially be done, but is not currently part of the study.*

General Public Comments:

Susan Summit-Seer, Friends of Bumping Lake: Susan’s family has owned the Bumping Lake Resort Lodge for 30 years. She described the values intrinsic to the Bumping valley; though it is not a spectacular valley on first observation, it is an old-growth climax forest and one of the most diverse in the entire nation, holding more species of conifers than any other place except one. According to Susan, it has numerous special ecological traits, largely due to minimal human activities in the valley. She stated that to destroy the area would be unwise and immoral.

Bill Campbell, Lake Kachess HOA: Bill directed his comments to Senator Murray’s staff member and the new members of the Workgroup. He outlined information that he believes the Workgroup does not openly acknowledge, such as that 5,000 public comments were submitted on the Draft and Supplemental Environmental Impact Statements on KDRPP and KKC, the loss of recreation opportunities that will result, and the impact of well failures that would result from Kachess Reservoir pool drawdown. He claimed opponents of the project have been ignored.

Information Update on Melvin R. Sampson Coho Facility

Dave Fast, Yakama Nation, gave a presentation about the Melvin R. Sampson Coho Hatchery. In 1985, there were no Coho at the Prosser gage on the Yakima River. In 1994, sub-basin and master planning efforts to bring Coho back began, and initial evaluation proved the goal was feasible in 2007. They began building the hatchery this year.

Dave described Coho habitat issues throughout the basin, including tributaries that were “blocked” for Coho passage. He described some of the projects that will help remedy these issues, and pointed out that some previously blocked areas have since re-opened for Coho habitat.

Construction of the hatchery is expected to be completed in 2019.

Workgroup Discussion:

Charlie de la Chapelle, Yakima Basin Storage Alliance: Can you comment on sockeye survival rates this year?

- *Dave Fast: They were not too good. The river had high temperatures, which suppress survival success.*

Scott Revell, Roza Irrigation District: Did the returning Chinook salmon match the salmon that out-migrated in 2015?

- *Dave Fast: Yes. A small proportion of the 5 year old Chinook that left the Basin in 2015 have returned to the Yakima River and tributaries. Approximately 400 sockeye have returned in 2018.*

Public input on this agenda item:

Chris Maykut, Friends of Bumping Lake: Why is this project (the Coho hatchery project) not a part of the Integrated Plan?

- *Dave Fast: This project is an agreement between the Yakama Nation and the Bonneville Power Administration. However, Integrated Plan projects complement the mission of the hatchery by improving habitat the fish will use after they leave the hatchery and when they return to spawn.*

Updates on Subcommittees and Subgroups

Habitat Subcommittee

Tom Elliot gave a presentation outlining projects the Yakama Nation is conducting on the Wapato Reach. The Wapato Reach is the drainage for approximately 25% of the basin area and contains critical fish habitat and large alluvial floodplains. Toppenish and Satus Creeks produce over half of Yakima Basin fish escapement (out-migrating salmon and steelhead). Tom showed a map of Integrated Plan projects in the Wapato reach.

Tom highlighted the Toppenish Fan groundwater recharge project. Approximately 2,000 to 3,000 acre-feet of water are diverted out of tributaries during higher winter flows and seeps into the highly porous sediments of the Toppenish Fan. The water emerges at downstream springs and has the potential to improve cool water habitat in major creeks. Tom also highlighted aquatic habitat restoration projects in critical reaches and floodplain reconnection on the main stem of the Yakima River. One example is a lengthy side channel of the Yakima River at River Mile 89.5 where flow is being restored to benefit a variety of fish and wildlife species that rely on riparian and floodplain habitat.

Workgroup Discussion:

Jeff Tayer, Washington Department of Fish and Wildlife: Jeff expressed his thanks to the Yakama Nation for a productive partnership on these projects.

Public input on this agenda item:

Bob Hall, Yakima Basin Storage Alliance: How do these projects fit in with large scale regional salmon recovery efforts for the West Coast?

- *Dave Fast: These projects cannot single handedly solve the problem, but they are pieces of the pie. Every little bit counts, and the sum total of these and other projects help with Columbia Basin salmon recovery.*

Chuck Klarich, Yakima Basin Storage Alliance: How will the Toppenish Fan recharge regime work in drought years when water is unavailable due to low flows?

- *Tom Elliot: No diversion and infiltration will occur in those years. By design, diversion can only occur when the streams flow at a certain rate, so natural processes will dictate timing and volume of recharge.*

Groundwater Subcommittee

Dr. Danielle Squeochs, Washington State Department of Ecology: Danielle presented the study concerning groundwater recharge opportunities in the Yakima basin. The study was conducted by graduate student Maria Gibson at Oregon State University. The study reviewed two types of aquifer recharge: shallow aquifer recharge (SAR – infiltration basins) and aquifer storage and recovery (ASR – uses wells to inject and recover water). The study reviewed sub-basins of the Yakima basin for areas with the greatest storage potential for the two types of aquifer storage. The current findings describe areas where aquifer recharge is likely unsuitable, and can be removed from consideration. The next step is to do site-specific investigations in the remaining areas.

Danielle also briefly reviewed the updates to the USGS Yakima basin groundwater model. The intent is to include groundwater storage in the model, which was not included in the original model design. This may help answer the question of how pumping deep wells affects Yakima basin rivers. Staff at the Bureau of Reclamation are working to improve calibration of the model in shallow wells.

Workgroup Discussion:

Scott Revell, Roza Irrigation District: Scott highlighted some of the complexities of aquifer recharge, particularly that water needs to be treated to prevent any degradation to groundwater.

Public input on this agenda item:

Tom Elliot, Yakama Nation: Floodplains were not featured in this study. Are there smaller-scale opportunities for aquifer recharge?

- *Danielle Squeochs: The Groundwater Storage Subcommittee is concerned with larger opportunities, and this study mirrors that focus. There may be smaller scale opportunities that have yet to be addressed.*

Bill Campbell, Lake Kachess HOA: Are there statistics that describe the quality/accuracy of the model available?

- *Danielle Squeochs: Yes. The statistics will be available in an upcoming report.*

Tom Elliot, Yakama Nation: Tom noted that irrigation district conservation activities will affect groundwater storage. These kinds of changes will affect wetlands and floodplain systems, and should be included in the model.

Lower River Subgroup

Marcella Appel, Benton Conservation District (BCD), gave a presentation about studies of the longitudinal thermal profile and cold water refugia in the lower river. The projects are partnerships between the Yakama Nation, the USGS, Kennewick Irrigation District, and BCD. They are studying and surveying pockets of cold water in the lower Yakima River that migrating salmon can use as short-term refuges during migration up the river even when the river overall is too warm. She described the surveys conducted in 2018 and preliminary data. Further data analysis will follow.

Bret Walters, U.S. Army Corps of Engineers said that they are still awaiting a response regarding funding for the Yakima Delta Improvement Project (i.e. Bateman Island). They expect a response within the next few weeks.

Workgroup Discussion:

Jaclyn Hancock, Washington State Department of Agriculture: Can the temperature signals indicate whether cold water is coming from groundwater or hyporheic exchange?

- *Marcella Appel: Not yet, but this could be feasible with appropriate data collection and analysis.*

Tom Ring: Tom noted that irrigation induced recharge is a significant contributor to groundwater and return flows to the river. However, in regards to improving groundwater storage, “accidental irrigation recharge” is not the solution. Projects need to focus on good quality, cold water, typically from winter flows, which better simulate natural processes and can potentially improve cold water refuge sites.

Public input on this agenda item:

Chuch Klarich, Yakima Basin Storage Alliance: What is the correlation between water star grass and Yakima River temperature?

- *Marcella Appel: Water star grass does indeed have an impact on temperature, and it is considered a problem.*

Workgroup Roundtable

Dawn Weidmeier, Bureau of Reclamation, Columbia-Cascades Area Office: Dawn reflected on the good work done on larger projects, such as Cle Elum fish passage and KDRPP. The projects are not quick or easy, and they require significant dedication over a sustained period. Dawn sends kudos to those involved. She also thanked Tom Tebb and his staff at the Washington State Department of Ecology for their valuable partnership and funding support.

Alex Conley, Yakima Basin Fish and Wildlife Recovery Board: Alex is happy to see work that began over 12 years ago produce the knowledge that is guiding projects and processes today. The Integrated Plan is better because of what the Workgroup has learned over the past decade. Alex also commended the partnerships that helped build this knowledge throughout the basin and particularly the lower river.

Cory Wright, Kittitas County: Cory is replacing Paul Jewell as Kittitas County's representative on the Workgroup. He plans to continue in Paul's footsteps and is committed to fostering the relationships Kittitas County maintains with all of the participants in the Integrated Plan.

Urban Eberhart, Kittitas Reclamation District: Tributaries in the upper basin are flowing with water because of the Integrated Plan. The tributaries are being monitored to quantify effects and benefits of the tributary supplementation project. Big Creek is flowing at 18 cubic feet per second, and Little Creek is flowing at 12 cubic feet per second. Tributary habitats have been improved, and show that the Integrated Plan is working.

Charlie de la Chapelle, Yakima Basin Storage Alliance: Charlie is pleased to see continued movement on projects, but notes that the Integrated Plan will still require significant funding into the future. The thermal barrier at the mouth of the river is a big problem that needs to be fixed.

Erick Walker, U.S. Forest Service: Erick acknowledged District Rangers Michelle Capp and Kelly Lawrence for their work to keep the Forest Service engaged in the Integrated Plan process. Erick understands the important role the Forest Service plays, and will continue to move forward with advancing its mission and relationships in the context of the Integrated Plan.

Jason Romine, U.S. Fish and Wildlife Service: 2018 has been another successful year of moving Bull Trout over Clear Creek Dam. Jason thanked the Forest Service, Reclamation, and WDFW partners for helping in that effort.

Rick Dieker, Yakima-Tieton Irrigation District: YTID recognizes that conservation is an important factor for improving water supply and recognized the work previously done by irrigation districts. However, water conservation is only part of the solution. Storage projects must be included as well. Rick mentioned the YTID canal replacement project and the multiple benefits it could provide for the basin. The project is ready for environmental review, and needs the help of Integrated Plan partners to move forward.

Wendy McDermott, American Rivers: Wendy thanked the Yakama Nation for hosting the Workgroup meeting.

Mike Livingston, Washington State Department of Fish and Wildlife: Today's presentations were all high quality. Mike considers the information presented to be a great depiction that there is work being done all the way from the Yakima River basin headwaters to the Tri-Cities.

Peter Dykstra, Plauche & Carr, LLP: Peter responded to the public comments given earlier in the meeting from Bill Campbell. Peter has been involved in the Integrated Plan for approximately 7 years. In communicating with State and Federal legislators and their staffs as well state and federal agency managers, he has consistently communicated that there are those who do not support the Integrated Plan and has noted their positions and objections. Peter notes there have been many meetings held with the Lake Kachess homeowners over the years. Their perspective has been clearly communicated. These

include meetings involving the homeowners with legislators and agency staff that have occurred both in the Yakima basin and in Seattle.

Jeff Tayer, Washington Department of Fish and Wildlife: Jeff recognized the Bureau of Reclamation for a job well done in managing the big construction projects currently underway.

Scott Revell, Roza Irrigation District: The Cle Elum pool raise will cost approximately \$1,400 per acre foot. This is not a high cost relative to other water supply projects in the Integrated Plan. Scott suggested some facts Bill Campbell described earlier in the meeting were erroneous or incomplete. One notable issue is that the cost to construct KDRPP is \$200 million even after including the operational costs over many decades, which is comparable to saying the cost of a new car includes costs of all the fuel and maintenance that will be needed over its lifetime. Even using this value, it is much less than what the Kachess Homeowners claim. Scott also suggested that to say constituents have not been heard is inaccurate. He has attended numerous meetings with stakeholders about this project. Roza offers to continue having meetings with interested parties in the KDRPP issues, and suggests putting their input in writing so it can be carefully reviewed and addressed.

Tom Tebb, Washington State Department of Ecology: Acknowledged the Yakama Nation for hosting the meeting and appreciated the opportunity to meet here. Tom thanked Ecology staff who presented today.

Upcoming Meetings

The next Workgroup meeting will be on December 19, 2018, in Yakima, WA (9:30 a.m.).

Attendance

Workgroup Members:

Dale Bambrick, National Marine Fisheries Service
Dave Brown, City of Yakima (Workgroup Alternate for Carmen Mendez)
Alex Conley, Yakima Basin Fish and Wildlife Recovery Board
Ron Cowin P.E., Sunnyside Valley Irrigation District
Rick Dieker, Yakima-Tieton Irrigation District
Peter Dykstra, Plauche & Carr, LLP and Chair of Watershed Land Conservation Subcommittee
Urban Eberhart, Kittitas Reclamation District
David Fast, Yakama Nation – Yakima/Klickitat Fisheries Project
Jaclyn Hancock, Washington State Department of Agriculture
Mike Livingston, Washington State Department of Fish and Wildlife
Wendy McDermott, American Rivers
Jerrod MacPherson, Benton County (Workgroup Alternate for Jerome Delvin)
Scott Revell, Roza Irrigation District and Chair of Water Use Subcommittee
Tom Ring, Confederated Tribes and Bands of the Yakama Nation (Workgroup Alternate for Phil Rigdon)
Jason Romine, U.S. Fish and Wildlife Service
Jeff Tayer, Washington Department of Fish and Wildlife and Chair of Habitat Subcommittee
Tom Tebb, Washington State Department of Ecology
Erick Walker, U.S. Forest Service
Bret Walters, U.S. Army Corps of Engineers
Dawn Wiedmeier, Reclamation – Columbia-Cascades Area Office
Ben Woodard, Kennewick Irrigation District (Workgroup Alternate for Seth Defoe)
Cory Wright, Kittitas County

Other Attendees:

Marcella Appel, Benton County Conservation District
Darcy Batura, The Nature Conservancy
Lori Brady, Sunnyside Valley Irrigation District
Michael Callahan, Washington State Department of Ecology
Bill Campbell, Lake Kachess HOA
Debbie Carlson, Bonneville Power Administration
Charlie de la Chapelle, Yakima Basin Storage Alliance
Wendy Christensen, Reclamation – Columbia-Cascades Area Office
Rocco Clark, Bureau of Indian Affairs – Yakama Agency
Stuart Crane, Confederated Tribes and Bands of the Yakama Nation
Jane Creech, Washington Department of Ecology
Raquel Cronely, Central Washington Director for Senator Patty Murray
Karen Dera, Reclamation, Columbia-Cascades Area Office
Melissa Downes, Washington Department of Ecology

Nathan Draper, Selah-Moxee Irrigation District
Tom Elliot, Confederated Tribes and Bands of the Yakama Nation
Ben Floyd, White Bluffs Consulting
Clancy Flynn, Columbia Irrigation District
Kathryn Furr, U.S. Forest Service
Andrew Graham, HDR Engineering, Inc.
Dan Graves, HDR Engineering, Inc.
Kelsey Green, American Rivers
Bob Hall, Yakima Basin Storage Alliance
Jonathan Haller, Kennewick Irrigation District
Justin Harter, Naches-Selah Irrigation District
Teresa Hauser, Reclamation – Columbia-Cascades Area Office
Theodore Holt, The Nature Conservancy
Elayne Hovde, Reclamation – Columbia-Cascades Area Office
Joel Hubble, Kittitas Reclamation District
Brady Kent, Confederated Tribes and Bands of the Yakama Nation
Chuck Klarich, Yakima Basin Storage Alliance
Walt Larrick, Consultant to the Kittitas Reclamation District
Kelly Lawrence, U.S. Forest Service
Edward Lizowski, Citizen
Steve Malloch, Western Water Futures LLC (alternate for American Rivers)
Larry Martin, Halverson Northwest Law Group
Neil Martin, Columbia Irrigation District
Chris Maykut, Friends of Bumping Lake
Jim Milton, Yakima-Tieton Irrigation District (Workgroup Alternate for Rick Dieker)
Brooks Mitchell, Property Owner
Merrit Mitchell-Wajeeh, Mid-Columbia Fisheries
Pat Monk, Bureau of Reclamation
Bryan Myre, Yakama Reservation Irrigation District
Roxanne Nayar, Oregon Department of Environmental Quality
Dave Nazy, Washington State Department of Ecology
Elaine Packard, Sierra Club
Aaron Paul, The Nature Conservancy
Sage Park, Washington State Department of Ecology
Tim Poppleton, Washington State Department of Ecology
Joye Redfield-Wilder, Washington State Department of Ecology
Heather Simmons, Washington State Department of Ecology
Colleen Smith, Washington State Department of Ecology
Danielle Squeochs, Washington State Department of Ecology
Chad Stuart, Bureau of Reclamation – Yakima Field Office
Vince Shaver, Columbia Irrigation District

Richard Visser, Reclamation – Columbia-Cascades Area Office
Yvonne Wichelsen, Resident
Laine Young, Washington State Department of Ecology

Where to Find Workgroup Information

Meeting materials, notes, presentations, and materials submitted during public comment for each Workgroup meeting will be posted on Reclamation’s project website:

(<http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/index.html>). A list of information sources, many available online, is also posted on the website.

If you need help finding an information source, contact those listed at the top of page 1 of these notes or Ben Floyd at White Bluffs Consulting, (509) 539-3366 or ben@whitebluffsconsulting.com.

Audience Submissions

Submission from Susan Summit Cyr

Public Comment for the Yakima Integrated Plan Workgroup Meeting
September 20, 2018

My name is Susan Summit Cyr and I, with my husband Tom, have owned the old Nelson Lodge at Bumping Lake for over thirty years. I am biomedical illustrator and as a biologist, have studied the natural history of the Bumping River Valley and extensively researched the human history in the Valley as well.

The Bumping River Valley is a deceptive place. It is not National-Park spectacular with towering cliffs or lofty waterfalls and sections of the single road through the basin are through rather scrawny first-succession lodgepole pines, but upon closer examination, the true nature of the area is revealed: the entire valley is a sprawling old growth forest. Ancient Douglas firs with girths up to twenty-seven feet in circumference are scattered among a bewildering mix of conifers of every shape and size. Giant Engelmann spruce grow 140 feet tall next to equally massive western red cedars in thick stands alongside streams. A healthy understory anchoring the trees supports a vast web of life that has evolved unmolested since the thick ice sheets receded from this land. The Bumping River Valley is prime example of an eastern slope climax forest.

But that is just the framework. It turns out, that this watershed is one of the most diverse late seral conifer forests not just in our state, or the West, but in the entire country.

The late United States Supreme Court Justice William O. Douglas, in *My Wilderness*, claimed that in the Bumping Lake area were more conifer species than anywhere else in the country. He was close. The Bumping River Valley is home to an astonishing seventeen species of conifers. Only the Klamath-Siskiyou Mountain ecoregion, contains more, at twenty. But the comparison is unfair: The Bumping Valley is a single small watershed, twenty-four miles long, within the Cascade Mountains, whereas the Siskiyou are an entire range spanning two states and stretching 100 miles from the Pacific to the eastern interior. In addition, because the Siskiyou were never glaciated, that region has enjoyed millions more ice-free years to evolve a few more species.

The Bumping River Valley is home to a comparable variety of other plant species that make up the mosaic of organisms in this complex old growth ecosystem. There are few plants that I have *not* been able to locate somewhere in the watershed. Identified on single-day surveys along just four trails, the Washington Native Plant Society encountered fifteen species of ferns. Nine species of orchids, a majority of the orchid species that occur in the entire northwest, were located on another similarly limited sampling. More comprehensive future surveys will confirm the depth of botanical biodiversity.

Animal species are equally varied. All the animals expected to inhabit the area do, including threatened species like the bull trout and species of concern like the tailed frog and harlequin duck. The valley supports seven species of woodpeckers and seven species of shrews. Amphibians are extraordinarily diverse and are present in robust numbers. Wolves have moved through the valley and wolverines are likely breeding on the high ridges again.

All this diversity exists due to two factors. The first is the Valley's location on the map in a geographical sweet spot. The Bumping River Valley lies at a medium elevation but also supports the overlapping ranges of low and high elevation plants and animals. Being just east of the crest of the north-south Cascades, means that the valley exhibits both western and eastern Washington plant and animal species. And the physical terrain ranges from river bottom to high mountain ridges which offers almost every habitat associated with the mountains of this state: river, lake, bog, swamp, low, medium and high mountain meadows, riparian forest, seeps, talus slopes, rocky ridges, hanging valleys. There is a habitat for nearly every organism.

The second, is the fact that through a remarkable series of circumstances, the Bumping River Valley's forests have emerged into the twenty-first century remarkably intact. With the notable exception of the river ecosystem which was bisected by the Bumping Lake dam in 1910, man's impact on the forest has been relatively light. Historic mining and trapping activity was minor and localized. Recreation development was sporadic and existing facilities are limited to several campgrounds, thirteen cabins, and a single marina. Commercial logging was curtailed after a single timber sale was made at Chipmunk Creek in the 1950's on the lower Bumping Lake Road. The only other logging has been some scattered salvage and fire preparation thinning along the road. The Valley and its slopes are a verdant blanket of intact, virgin, fire-adapted forests with all their associated species present.

Why does the extraordinary diversity of this ecosystem matter? There are two reasons. The first is resiliency. The Bumping River Valley has not seen catastrophic or widespread stand kills from insects and pathogens because of the diversity of the conifer mix in the watershed. A diverse, mature, healthy forest is simply more resistant to all forms of destructive forces. The second is that this diverse forest serves as a repository for species. The ecosystem is a reserve that exists as a gene source pool for colonization into degraded areas and serves to perpetuate a rich assortment of species from ordinary to threatened.

The Bumping River Valley, so ordinary at first glance, is in fact, a treasure hiding in plain sight. It is a little pocket of real estate teeming with life, completely unique, and packed with diversity. To obliterate this ancient forest, one of the few ecosystems like it left *anywhere*, is not just unwise, it is immoral. We can and must preserve, not destroy, our last best places.

Thank you.

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