

Bonnie Anonymous

Hello;

Thank you for all your hard work on this to date but there are some glaring gaps. Please fix.

Bonnie Blessing

To: Ecology for the Agricultural CWA comments

We moved to Olympia because we love farms. We also appreciate that there is wildlife, fish, recreational waters and drinking water. However we feel a great threat from impacts of urbanization and some farm practices on wildlife fish recreational use and drinking water.

I think we used to be able to mow more fields and not have the river heat up.

I think we used to be able to discharge more nutrients and not even think about blue-green algae etc.

But things are changing.

The things we've been able to do in the past may truly no longer can 'work' The normal ways of timber and farm management that built this country may have to change. For the next generation of farmers and those who benefit from agricultural industry. I think there's a balance. Can we please keep our lakes and stream healthy for us and for critters?

Some of our lakes and streams are heavily 'impaired'. Too warm. Too impacted by blue-green algae. Too costly to add massive amounts of aluminum sulfate to fix. Perhaps mostly due to septic tanks but possibly other reasons

Lakes are just having a lot of algal blooms. Everywhere. And some things can make those worse, so we have to just be more careful:

First, it was colder back then: (page 55 of

<https://archive.org/details/markham-1998-memories/page/n54/mode/1up>. Even old soil surveys describe how some soil types like Mukilteo peats would experience a frost every month of the year (page 43 of <https://archive.org/details/usda-soil-survey-of-thurston-county-washington-1958/page/42/mode/2up>).

This cold snap truly isn't happening anymore. And with warmer temperatures comes more growth of harmful algae like cyanobacteria

https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/RestoretheDelta/RTD_236.pdf.

The cold frosts are gone. To keep water cooler we may need to keep a larger buffer.

2) Another reason that blue-green algae can grow is from unbalanced nutrients and deeper water. Nutrients have many sources. Including old time ag. Wood waste can be one. In the past some mills did discharge waste into lakes. Oddly wood waste can have nutrients like phosphorus in it. For instance, bark can have a lot of phosphorus. Then when its put into lakes, it just doesn't go away. So into the future we have to be more careful:

In the past we did clearcut and put mills on the shores of lakes (page 22 of 301 of

<https://archive.org/details/markham-1998-memories/page/22/mode/1up>). The water extractable amount of phosphorus is just too much. See how it is often 5 to 10 mg/liter phosphorus

<https://journals.ashs.org/view/journals/hortsci/43/2/article-p478.xml>.

The cyanobacteria are also encouraged by the phosphorus from livestock so its good to see that Ecology promotes some use of fencing along streams.

Some say the combination of ditching and draining and refilling can release nutrients as organic matter oxidizes, turns into muck and goes downstream. Take a look at the old soil surveys. We used to have peat. Now its all called muck. Muck is like decomposed peat that has turned mostly visible fragments of plants to amorphous blobs that can move away and enter other bodies of water.

3) We've messed with a lot of ecosystems that had a balance. We irrigate. We drain to reclaim: To try to reclaim land for farming, our local lake was drained in 1924 (page 33 of 301 of <https://archive.org/details/markham-1998-memories/page/n32/mode/1up>).

I hope we can find ways to protect water wildlife fish and continue to have some level of farming.

I understand that some rivers are heating up. Including the Chehalis, which does feel like warm bathwater in summer in much of it. Yet when I buy hay down on the lower bits of the Chehalis, I see a tiny buffer adjoining a vast flat hot field. The temps in the soil gotta be warm. When we paddle the Chehalis its like bathwater in the summer.

Are we sure this is the best thing for our salmon?

In the past we did have forests in the floodplains. Now we tend to keep the fields and soil open near big rivers in Washington. This does heat the soil Heat moves sideways in soils. Please see figure 9 on page 1196 of [Harvesting Effects on Microclimatic Gradients from Small Streams to Uplands in Western Washington](#) and observations on how soil temperatures located 60 meters away from a given stream had a stronger influence on water temperatures than did soil temperature at the buffer station itself.

I believe the buffer being asked is way way less than 60 meters but probably should be more based on so much science that says that we need to keep soils cool to keep rivers cool.

I also am concerned about friends who have wells near old dairies and places where nutrients are sprayed. I think it goes to groundwater. When the grass can suck up the nutrients thats fine. When they can't where does this go?

I believe it goes into the groundwater and then sideways and takes some time to go away.

Other friends in John Day Oregon decided to just get an advanced filtration system for their drinking water to deter health concerns.

Again, I hope we can find a balance between the needs of people and critters that use water.

I like how some agricultural practices seem ok for a rare frog in Washington state, the Oregon spotted frog. In some cases, agricultural practices like careful managed grazing and haying creates openings in invasive plants for spotted frogs to lay eggs in in spring. However what may be less known is that this critter may use small opening in an otherwise larger area covered with tall grasses. Like

[Microsoft Word - Kapust et al HCB 2011-067](#)

When I helped out at Beaver Creek, we'd often notice that yes the adult OSF were in the warm pond area. But there'd be a gradient from the warm to a fair bit cooler in a nearby channel (which was really a ditch with low level of maintenance. There we saw juvenile OSF in a channel (ditch) that had spirea

growing on each side of it, sort of keeping the ditch open and shaded. I'd assume the ditch also had low dissolved oxygen but then again the ditch had non-salmonids. This ditch had Olympic mudminnows which tolerate lower dissolved oxygen. I think it was Chelsea Waddell who found OSF in 'channels' which were really very old ditches that had very deferred maintenance.

I believe that where humans have made channels across a landscape and let that channel rest a bit that critters start using them. Some of these critters like the Olympic mudminnow tolerate lower DO and lower water quality/ This should be figured out.

When it comes to grazing, I see how the Publication 20-10---8d)(page 23d) discusses grazing. It seems like if there is a nutrient problem that the grazing should probably occur only when the plants can absorb and use the nutrients. When the soils are warm enough for the nutrients to be used properly.

Specific comments are below:

RE: the 444 page report on riparian areas:

I believe a mistake was made on page 7 and page 434 of 444 of [Voluntary Clean Water Guidance for Agriculture - Riparian](#) .

Specifically under 'State Conservation Programs, the Partners in Fish and Wildlife Program and Centennial Clean Water Program. I think these are federally funded or federal programs not state funded but who knows these days.

Thank you for all your literature review in the above citation. Wow. A full bibliography showing how nutrients are removed by riparian vegetation.

RE:Chapter 7. Water Management. Publication No. 20-10-008h the draft chapter 7 on irrigation system and water management. This needs some work as so many existing uses like fish and wildlife and wetlands and seasonally flooded areas are associated with or use water that may be used for drainage or irrigation. And the 'prime if drained' thing for ag soils. But draining' literally means to some people running the tractor through the marsh, killing fish and wildlife as they go. To others its more subtle but eliminates wildlife habitat. Where is the review of this in this chapter? Where?

Out of all these pages there's only 2 uses of the word 'fish' and none of wildlife and hardly a reference with any content to wetlands. Yet both fish and wildlife use ditches, often with very specific levels of maintenance intensity and frequency. There's only a handful of mentions of wetlands./ This seems odd as drainage systems are often intended to drain a wetlands or waters on the surface of the land in winter as well. (not wetlands).

In Chapter 7 (Water Management) there are at least 39 references to drainage systems. There it says how proper drainage is crucial for improving crop yeilds, that drainage facilities must be maintained, that excess water is such a burden that we should drain the works. Ok, go ahead destroy wildlife, fish, our aquifer recharge areas. Just drain away your water to reclaim the land. Good luck. Good Bye aquifer recharge. Good Bye to Gods critters. Lets just make food in a factory and screw the land and the water. The zionists drained the Hula marshes and look what happened to the sea that Jesus himself

walked on. The sea of galilee now has harmful algal blooms. Wonder what starts wars? Mark twain knew that water was for fighting over.
Just because we've always done it that way does not make it a good idea these days. Tradition.