The conservation of life, MUST be done wherever possible; because human overpopulation and choices; have overtaken nature/ and its ability to survive is now entirely our responsibility.

The constant human reaction is: WE DON'T NEED THEM DAMN CREATURES/ they just get in the way, or cost me time or money!

The constant truth however is: every chain of life, has very intricate realities of which we known not, where the critical links are. The failure of a single link; "just like the loss of a key, fails the car or combine to start"; can stop everything dependent upon that one tiny little "looks like it don't matter" truth of life. A world by human design is: NOTHING, BUT WHAT I WANT! And what humanity wants is; nothing but "look at me/ listen to me/ give me everything I want, and don't give me no trouble". Discarding an entire world, to the trash; for little more than a trophy, you then throw away.

Without diversity in life, there is no future! Because time measures hope, and without hope for a world that is more than work, or a trophy; there is little room for love. Without love, only the desperation of survival or hate is left. This earth is far more complex than you assume.

We then begin with "next door to me"; is a drainage ditch made by men; but used by nature/ because environment is, what it is; and every life adapts or dies. Recently two county road bridges were replaced; and the (4) ponds that had been, on both sides of each bridge were ruined/ by the placement of large concrete pieces. So as to keep the dirt from being washed out on each side of the bridge tunnel; denying nature the opportunity, to recreate the ponds. This is the new method of doing this construction, and I see it appearing in more than this COUNTY. Each pond was a small life sanctuary, I know because I have lived next to it for over fifty years. It use to hold craw-fish/ tadpoles and frogs/ small fish/ snakes/ turtles/ water for larger creatures, food for birds and more; small children always visited each pond as did I. The removal of each pond was nothing more than to say "look at me/ see what we did; now you can tell men were here". Because they did no harm, and benefited the very tiny bit of nature that was left, and is now gone.

One of the many benefits of those ponds was: that river fish, and in particular carp in this area. In a large flood; all swim toward the head-water of a small tributary such as this drainage ditch: to spawn their next generation; in these very ponds. Because that protects the next generation from primary attack by larger fish. Without the ponds, that generation doesn't get born. Without them, all the creatures which feed on that source of food go hungry and die; including whatever life, is in the rivers,

and lakes/ the birds/ aquatic life and so on. They all go hungry once an "initial base element" of that particular chain of life disappears. So the end result of "we like this better" is: that you have chosen to empty the rivers/ lakes/ and environment of its diversity; and even destroy the very foundations of what makes children happy. To your shame.

We need ponds, they do provide much; and they harm nothing; but a man's pride! No you can't just do everything "your way"; unless you wish to change all of nature into, another description of "the abandoned city; how great men are".

Not only do we need ponds, life needs water/ responsibilities are required to nature. We need flood controls: yes they do have to take your water/ BUT NO, they don't have to take your massively increased flood. CHANGE IS NECESSARY!

So we begin: with the understanding, water is important to every living thing/ and the human despondency and apathy towards all of nature, environment, and life throughout anything he can touch: is no longer welcome. LEARN BETTER!

In terms of these two tributary drainage ditches; which come together in a "Y" in a little over half mile. The changes to be made are: a temporary style dam, needs to be placed just short of the Y in both ditches; and the "V" shaped area between them dug out, to sustain a much larger pond: nature will most likely take care of it, over time. This has very little impact on farming or drainage: but will provide a reservoir for holding water.

The temporary style dams are: self opening/ self closing gates that provide very little impedance to the flow of water in a flood/ and close back up to provide a basin for holding water in the drainage ditch farther upstream. Water retention; BELOW THE TILE DEPTH; has no impact on field drainage; which would leave in this ditch; about one foot of water at the bridge/ and about four foot of water at the dam. Which allows for another significant amount of water to be held back from the flood downstream.

This ditch is about ten feet deep: as the rains come and the ditch rises the dam is pushed open and falls down onto the bottom "so to speak"; which allows for the free flow of water, at maximum capacity of the ditch. When the water recedes: an amount of water that would otherwise flow downstream in a hurry to flood cities, rivers, and more; is retained in the ditch; and will add nature. The simple mechanism can be done in several ways. It is just a pivoting fold down panel. Mounted between two steel pipes; with an operating lever of some kind. Could be springs. Or, it could be operated by a float lever that extends out in front of the dam, and rises with the water level to open the gate and then falls back down with the water drop to let weight close the door, and retain the water. The posts sit in the embankment on each side, provide the sealing point; and are hinged for the panel that acts like a dam. Minimal accumulation of debris

should be possible.

This method of backing up the water, aids the drainage district by removing the cause of "little islands" that accumulate in the bottom of the ditch. As the slowed water then allows for whatever sediment, is in that water to slowly fall across the entire bottom of the ditch; instead of a migrating cut path. Water in the ditch that remains will grow more plants such as cattails; which do have a value; but you can use other plants to control the reality. What you will not get is trees growing in the bottom of the ditch where water remains, because these will not generate and grow, in standing water. Where the water stands for extended periods of time the embankment will take on the same look as does a river bank. Small holes in the dam if necessary will maintain a modest flow. Any large fish that is caught on the wrong side of the dam; is likely to remain until the next flood, so the question will be if they remain too long on the upstream side. In which case, a suitable hole, at a suitable height may need to be placed in the dam panel. As most fish do not jump; some may decide to stay, if the water is deep enough. Some fish could be transplanted; to grow in this upstream ditch if that works out for those concerned. They would be very easy to "net out". The flow over a dam will produce enough turbulence for a pond to grow; but that should not cause significant issues; and you can deal with it effectively. Let nature be your guide.

A series of temporary style dams, would provide significant relief to the problems agriculture has placed upon towns and cities due to its constant attempts "to get rid of that water fast"! This allows for flow, but aids the control over volume. Even so retention ponds to be built by men: are required to relieve the strain of too much water too fast downstream. This is your fault, and it requires your solution, for your area of drainage. That solution is retention ponds to absorb; overflow/ as well as temporary dams to provide another form of that volume control.

## **DETAILS OF CONSTRUCTION:**

fig 1: you are looking at a cut-away side view; of a drainage ditch: with basic configuration of dam. Posts are purple grass is yellow-green pivot panel is pink. One side open one side closed.

Fig 2: you are looking from the top over a drainage ditch pivot panel closed on left/ open on right. In-between is a cross arm used for installation of the posts. Cross beam holds the posts so a back hoe or bigger can just shove them into the ground. Take out a couple of pins and use the cross beam for the next dam.

Fig 3: you are looking at the side view of a dam post: showing a loose hinge to avoid trouble with corrosion. It sits in a manner that allows for lever action to tighten the pivot panel when up.

Fig 4: you are looking at the actual configuration of the dam post. It is hollow and holds a weight or a spring inside the pipe to avoid problems with trash: a cable insert into the

pipe, can be equipped with a sealing surface. Suitable cables then attach weight to pivot panel. Correct weight allows for pivoting motion to occur. The float shown lifts the lock point as water rises; thereby releasing the pivot panel to swing down. Weight closes door and locks again. Water in pipe should not interfere greatly. Pipe is closed on top with ratcheting area.

In other news: it has been found true, that overuse of nitrogen/ has done horrendous damage; particularly in the oceans. Proving: TO CONTROL your nitrogen usage, not only benefits the world/ it will benefit you, by rural acceptance of "no more than this" will be allowed. So that the corn bushels will then be adjusted, to improve their sale price for all. NOT A GAME; the trophy of your bushels; is not worth losing money for your business. Just do it; and fix yourselves.

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