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Daniel B. Frank, Esq.
Frank Law Office, P.C.
519 E. 18th Street
Cheyenne, WY 82001

Dear Mr. Frank:

This is in regard to a request to have Kagel Environmental, LLC (KE) prepare and submit to you an aquatic habitat restoration plan associated with the alleged Section 404 Clean Water Act violation against Mr. Andrew “Andy” Johnson. The subject project site is located within an approximate 8-acre farm parcel of land owned by Mr. Johnson, and is described as being within Section 30, Township 15 North, Range 115 West, Uinta County, near Fort Bridger, Wyoming. It’s KE’s understanding that the restoration plan, including a discussion of extant aquatic habitat functions and values [before and after] the alleged unauthorized construction of a state authorized stock watering pond, has been requested of Mr. Johnson by the Environmental Protection Agency (EPA).

Therefore, the following narrative report of functions, values and habitat restoration recommendations within the immediate area(s) of the alleged violation is provided herein and based upon the expertise, experience, and best professional judgment of KE. Please note that the firm of KE is highly qualified in this area, with more than 35 years combined education, training, and experience in ecological studies. KE principals Susan Kagel, Ph.D., and Ray Kagel, M.S., PWS, each have graduate degrees in biological sciences with specialties in wetlands science, wildlife and fisheries biology, and fluvial geomorphology. Additionally, as a former U.S. Army Corps of Engineers (COE) senior regulatory project manager and enforcement officer, KE principal Ray Kagel was responsible for reviewing and approving numerous wetland and stream channel habitat restoration and mitigation plans on behalf of the federal government. Consequently, please be assured that the following aquatic habitat assessment and restoration report is provided with the highest degree of ecologically based professionalism, accuracy and reliability.

SITE DESCRIPTION & METHODS

A state authorized stock pond, including water control structure, culvert pipe, erosion controls, and energy dissipater was constructed on a small perennial stream segment named Six Mile Creek in/about 2013. According to field report(s) prepared by the COE and/or the EPA there were no adjacent wetlands to the creek. During a site inspection performed by KE in the early spring of 2014, KE concurred with the government field inspection report and definitively determined the paucity of wetlands and that no wetlands were impacted by the pond construction.



The stock pond is generally described as a rather narrow, oblong (elongated) shaped oval, and appears to have been constructed via a combination of excavation work and berm/dam construction. As calculated by Google Earth Pro Measuring Tools, the pond is approximately 615 feet in length along its east/west axis, and approximately 160 feet at its widest north/south axis. Although the stock pond construction did not involve impacts to wetlands, KE observed that the pond construction did require the discharge of fill material below the plane of the ordinary high water mark (OHWM) of the small creek channel.

As calculated and reported by KE in their April 30, 2014 field inspection and environmental site assessment (Appendix 1), the average width of the creek channel is approximately 68-inches and the average depth approximately 8-inches. In the same referenced report, KE calculated and reported that the construction of the stock pond resulted in the discharge of less than 10 cubic yards of fill material below the plane of the ordinary high water mark (OHWM) of the creek channel. Consequently, even in the event that a stock pond is neither an isolated (non-jurisdictional) waterbody, nor considered exempt from Section 404 permitting requirements, the relatively minor discharge of less than 10 cubic yards (or even 25 cubic yards requiring a PCN), means the discharge is already authorized on a national basis by what is [appropriately] termed a *nationwide permit*. It's important to note that all nationwide permits have been determined by the COE and the EPA, that their environmental impacts are both individually and cumulatively, considered to only be *minor*. Also note that a PCN (pre-construction notification) is only applicable in order that the COE can coordinate with other resource agencies to determine if there might be any other specific concerns or considerations that may warrant the addition of some special conditions added to the existing nationwide permit.

After completing the spring site inspection and environmental assessment of the alleged stock pond violation in early April, 2014, KE returned to the Johnson site during mid-summer (July, 2014) and performed a second inspection and environmental impacts, including a routine functional value habitat assessment along the [alleged] impacted section of Six mile Creek.

FINDINGS

Based upon KE's April 5, 2014 on-site field inspection, and KE's follow-up site inspection conducted on July 5, 2014, we find and offer the following professional opinions regarding the alleged violation in regard to functional values and aquatic habitat impacts associated with Mr. Johnson's stock water pond.

In order to reliably assess pre-pond construction site conditions along the channel of Six Mile Creek, KE appropriately selected natural (undisturbed) reference reaches of the channel. The reference reaches were located immediately downstream and upstream of the pond. Both observed reference reaches flow through historically over-grazed agricultural lands and revealed that the channel is bordered by mostly steep and substantially incised banks. Due to overgrazing and mostly unconsolidated bank soils, the incised banks showed significant indications of recent



and current accelerated erosion which increases turbidity, transport and deposition of suspended sediments, and increased transport of bed load, all of which results in quantifiable water quality degradation.

The reference reaches also revealed a nearly complete absence of riparian woody vegetation, lack of wetlands (aquatic habitat), and negligible wildlife and fisheries habitat. KE also observed no open or standing water areas suitable for waterfowl or other migratory shorebirds. The reference reaches were also devoid of significant deep pools that would provide sufficient depth for cool water temperatures in summer and escape habitat for survival of cold water fisheries such as native trout. It's important to note that this small channel flows within a chiefly xeric high altitude ecosystem where aquatic habitats are practically exclusive to major streams and riverine systems. Consequently, areas where small surface flows are either permanently or semi permanently ponded or inundated, typically enhance and/or establish aquatic habitat(s) that previously exhibited either marginal, negligible, or no measurable functions and values whatsoever.

In contrast to the undisturbed reference reaches of Six Mile Creek, and based upon the spring and summer site visits, Google Earth photo research, and the professional ecological assessments of the alleged violation area, KE has observed and concluded the following impacts that have resulted from the construction of the stock pond:

- a. The shallow margins (above and below the OHWM) of the pond have created and established wetlands where no wetlands previously existed.
- b. The pond has created and established wetland and riparian emergent, submergent, and floating herbaceous plants, as well as vascular woody vegetation where none previously existed.
- c. The approximate 1-acre pond created and established waterfowl nesting, resting, feeding, and loafing habitat where none existed previously.
- d. The size and depth (>8 feet) of the pond provide a year round cold water habitat to support and encourage viable trout fisheries where none existed previously.
- e. The size and depth of the pond creates a significant sedimentation basin, particularly during spring high runoff and storm events; suspended particulates are now settled and filtered substantially improving downstream water quality.
- f. The stock pond's undulating and meandering margins, small island areas, and areas of less than 6.6 foot depths (wetlands) have significantly increased the functional value of the entire (approximately 700 linear feet) stretch of channel located on Mr. Johnson's ranch.

CONCLUSIONS and RECOMMENDATIONS

Based on KE's professional examinations performed during two (spring and summer) site inspections and environmental assessments of the Johnson stock pond, we determined that the pond construction resulted in numerous environmental impacts; all impacts are considered



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positive. KE's environmental assessments revealed no adverse impacts to the aquatic environment whatsoever. Therefore the sole recommendation for any environmental restoration and enhancement of six mile creek would be to construct additional ponds within the Six Mile Creek watershed. For example, the Johnson stock pond has resulted in the creation and continuing development of a micro-aquatic ecosystem where there was previously nothing but a small and shallow incised creek channel with eroding banks virtually absent of wetlands and viable aquatic habitat. The above referenced wetland and other aquatic vegetation includes various sedges (*Carex sp.*), rushes (*Juncus sp.*), duckweed (*Lemna*, *Wolffiella*, *Wolffia*, *Spirodella*, *sp.*), pond weed (*Potamogeton sp.*), fall panic grass (*Panicum doctomiflorum*), willow (*Salix sp.*), and other species that are both palatable and nutritional to migratory waterfowl, as well as numerous aquatic dependent mammals such as weasels, muskrats and beaver. Many of these emergent, submergent, and floating plants also are known to harbor micro- and macro- invertebrates that provide nutritional support for fisheries. The abundant natural colonization of these wetland and aquatic plant species beneficial to waterfowl, wildlife, and fisheries essentially precludes the need for artificial supplementation (planting) of new or additional vegetative species.

Since the primary purpose of this [any] stock pond is to provide a safe and reliable source of water for cattle, horses, sheep, goats, etc., it would be oxymoronic to restrict livestock from utilizing the stock pond for its primary purpose. The exception to livestock utilization restrictions might be in the case where a stock pond is unable to support an overabundance of farm and ranch animals. In the case of the subject stock pond with a surface area of approximately 1- acre, KE observed that the current number of livestock is in healthy ecological balance with the newly established aquatic and wetland habitat that Mr. Johnson established by constructing his pond. However, in the event that Mr. Johnson were to double the number of his current livestock, then KE would recommend a habitat re-assessment in order to determine if livestock impacts warranted either expansion of the pond, access restrictions, and/or developing a rest and rotational formula for livestock watering.

Should you have any questions, comments, or need additional information, please feel welcomed to contact KE at your convenience.

Sincerely,

Ray L. Kagel, Jr., M.S.
Professional Wetland Scientist #2234
Wildlife Biologist

Susan W. Kagel, M.S., Ph.D.
Wetland Scientist
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