



SIERRA CLUB



KERN-KAWEAH CHAPTER



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VIA ELECTRONIC MAIL

March 15, 2016

U.S. Army Corps of Engineers Sacramento
District Public Affairs Office Contact:
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**RE: Phase III Real Estate Easement Acquisition of Borel Canal at Isabella Lake
Auxiliary Dam without Replacement, SEA**

Dear Mr. Krzys:

The Kern-Kaweah Chapter of the Sierra Club, Sequoia ForestKeeper®, and the Center for Biological Diversity (“Center”) (collectively “conservation groups”) thank you for this opportunity to submit comments on the Draft Supplemental Environmental Assessment (SEA) Isabella Lake Dam Safety Modification Project Phase III Real Estate Easement Acquisition of Borel Canal at Isabella Lake Auxiliary Dam without Replacement associated with the Isabella Lake Dam Safety Modification Project. Our groups have participated in the public review process and attended meetings for the U.S. Army Corps of Engineers (“Corps” or “ACOE”) Isabella Lake Dam Safety Modification Project and submitted comments on the DEIS on May 21, 2012 and supplemental comments on the

DEIS providing new information to the Corps on January 7, 2015, which included our comment letter of December 1, 2014 to the U.S. Fish and Wildlife Service on the listing of the Yellow-billed Cuckoo (western DPS) (*Coccyzus americanus*), and on December 28, 2015 concerning the FSEA for the Real Estate Acquisition and Relocation. Those comments are incorporated by reference herein as though fully set forth.

The DSEA relates primarily to project refinement, to update, discuss, and disclose potential effects, beneficial or adverse, that may result from the proposed easement acquisition, and decommissioning of the historic Borel Canal at the Isabella Lake Auxiliary Dam by the U.S. Army Corps of Engineers, Sacramento District (Corps). The Borel Canal has provided water to the 12-MW Borel Power Plant since its construction in 1904. The Corps has purchased the private trailers in the trailer park adjacent to the Borel Canal via eminent domain and is in the process of removing them. Closure of the canal at the dam is part of the ongoing Isabella Lake Dam Safety Modification Project (DSMP), but the Corps has failed to adequately address and consider several issues including: the availability and reuse of the right of way from the decommissioned Borel Canal in a manner that benefits the community (such as for a commuter bike and hiking path); impacts from the dewatered canal on the foraging patterns and nest quality of the Borel Road population of Tricolored Blackbirds (*Agelaius tricolor*); loss of habitat for diving ducks; the potential impacts to the substantial population of Alkali Mariposa lilies at the KVL Barlow Road Meadow; loss of non-fossil fuel energy source; loss of ground water recharge in San Joaquin Valley and infrastructure use in the Kern River Valley when the reservoir is filled to capacity; and mass wasting of unconsolidated fill on Engineer Point into Isabella Reservoir. The Corps must consider ways to:

- Mitigate for loss of foraging and roosting habitat for Tricolored Blackbird in and adjacent to the Borel Canal easement zone by providing an alternate shallow water source;
- Mitigate the loss of diving duck waterfowl habitat in the high water flow Borel Canal where there was little human encroachment on the duck territory;
- Mitigate impacts to Alkali Mariposa Lily from the proposed abandonment of the Borel Canal and less recharge due to seepage stoppage;
- Monitor ground water levels below auxiliary dam to determine if the dam repair causes aquifer depletion;
- Mitigate for the loss of hydroelectric power generation by installing clean solar on all local buildings and parking structures owned by the Corps;
- Mitigate for loss of use and damage to infrastructure (campgrounds, roads, pit toilets, recreation areas, hiking trails, nature preserves, ranches) when water levels in the reservoir exceed 350,000 acre feet;
- Mitigate by reducing the level of water impoundment to 350,000 acre feet by sending water to refill natural lakes and marshes specifically: Kern Lake, Buena Vista Lake, and Goose Lake; the overdraft of aquifers in the San Joaquin Valley

is in large part caused by the damming of Sierra rivers, in this instance, the Kern River;

- Limit impacts from excavated material placed onto seismically unstable Kern Canyon Fault on Engineer Point which may cause a mass wasting lake tsunami; and

Mitigate impacts to the community including for example, by consulting with Southern California Edison and Kern Council of Governments (Kern COG) about turning the decommissioned Borel Canal right of way into a commuter bike path and hiking trail.

And certainly the Corps must not award any contracts before the environmental review is complete.

Tricolored Blackbird and Winter Waterfowl Impacts

The Tricolored Blackbird is a candidate for listing under the California Endangered Species Act¹ and undergoing a status review by USFWS for listing under the Federal ESA.

Increased construction traffic may cause disturbance to the nesting habitat for a colony of Tricolored Blackbirds along Barlow Road next to the KVLI radio station tower and a possible take.

The colony of Tricolored Blackbirds nest in an area that had been set aside to protect alkali mariposa lily adjacent to the KVLI radio station transmission facility but that agreement did not transfer to the new owners. The blackbirds also nest northeast of the radio transmission facility along Barlow Road and roost in the trees in the trailer park and utilize the Borel Canal for water, forage, and mud for nest construction.²

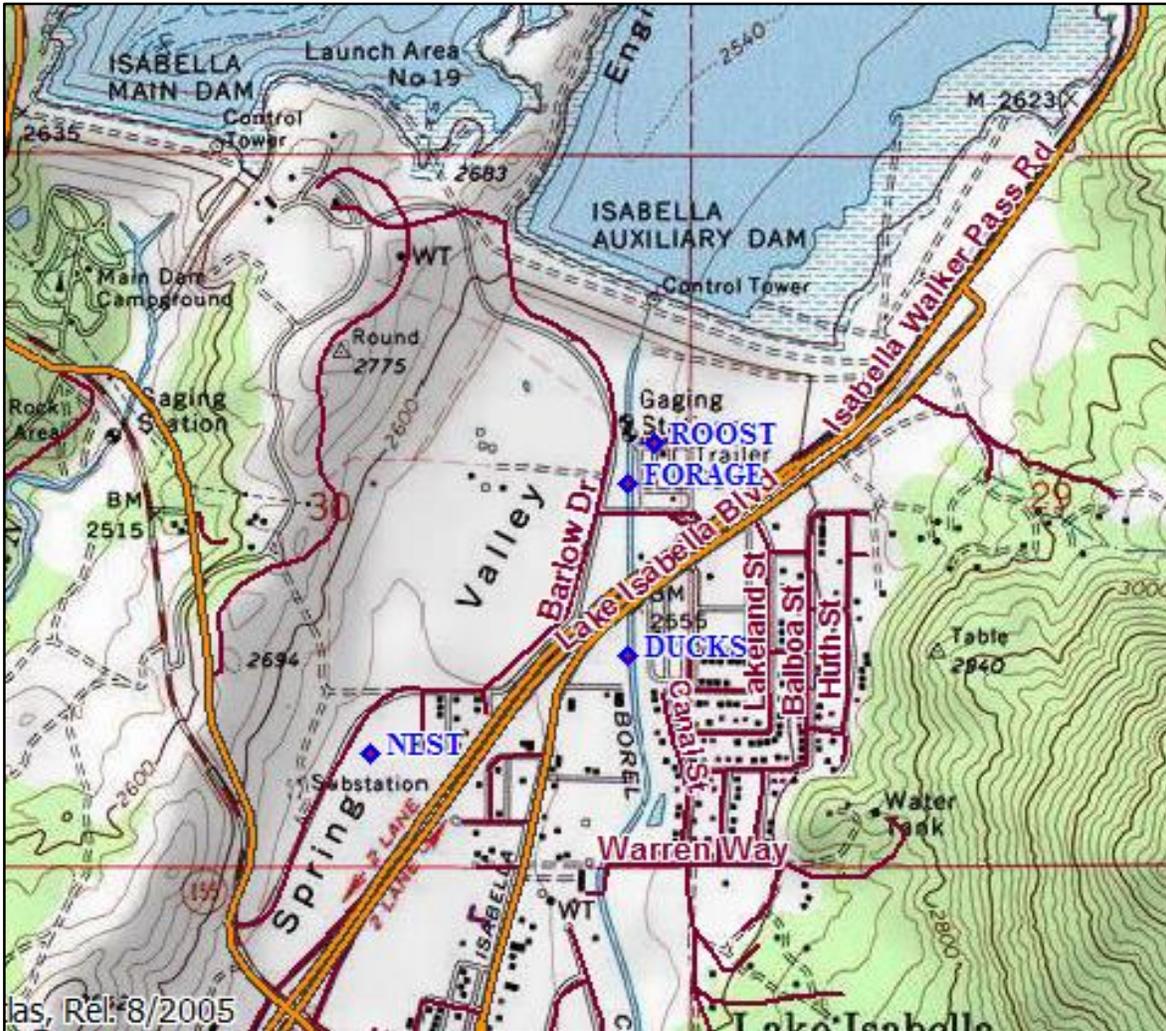
Winter resident diving ducks also use the canal for resting and foraging. The Corps staff, when asked about mitigating impacts to these species at the Corps meeting in Kernville, CA on February 24, 2016, said that the trees in the trailer park would not be removed, but the canal and the depression will be filled. We suggest that the Corps could mitigate the loss of the water and food source for the Tricolored Blackbirds by putting in an aerated shallow pond. The Corps should consider this and other mitigations before proceeding.

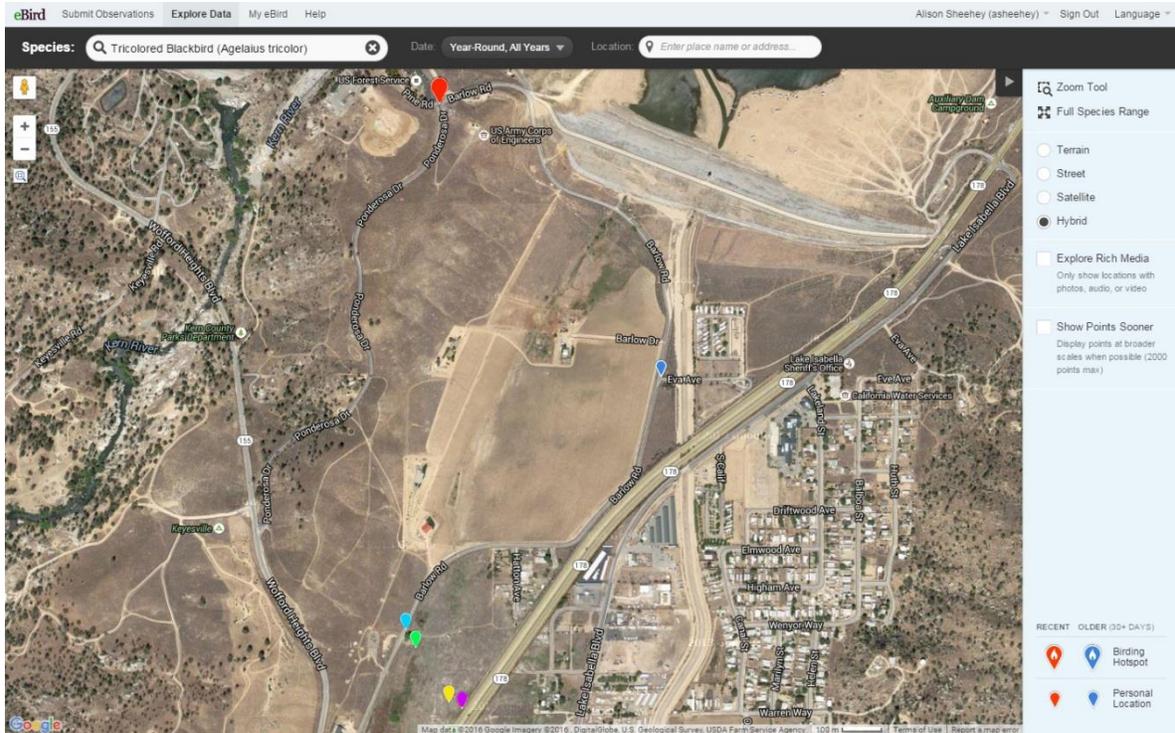
The Corps must also analyze whether the lack of seepage from the auxiliary dam will lower the downstream water table level in the Tricolored Blackbird marsh habitat, lily area, and the small marsh just below the dam. The Corps must consider and adopt some mitigation for any loss of habitat now created by the seepage once all seepage and water in the Borel Canal ceases in the easement area.

¹ <http://tricolor.ice.ucdavis.edu/node/442>

² http://www.prbo.org/calpif/htmldocs/species/riparian/tricolored_blackbird.htm

The map and data provided below show some of the documented use of this area by various birds and should be considered by the Corps in its analysis.





US-CA-Kern--Lake Isabella--Barlow Road-eBird sightings		
DATE	#	OBSERVER
4/22/2005	90	Bob Barnes
4/28/2009	25	Gerry Hawkins
3/26/2010	17	Bob Barnes
4/6/2010	12	Bob Barnes
4/10/2010	6	Bob Barnes
4/15/2010	25	Bob Barnes
12/11/2010	20	Bob Barnes
4/16/2011	30	Bob Barnes
1/1/2012	1	Alison Sheehey
1/8/2012	30	Alison Sheehey

3/2/2012	50	Bob Barnes
12/30/2012	18	Alison Sheehey
3/26/2015	30	Bob Barnes
4/17/2015	1	John Stanek
4/20/2015	20	Southern Sierra Research Station
4/30/2015	1	Jenna Stanek
5/3/2015	8	Bob Barnes
Highlighted colors on dates and pins correspond		
Modified from http://ebird.org/ebird/map/tribla?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2016		

Alkali mariposa lily

The alkali mariposa lily (*Calochortus striatus*) is a species of concern, which grows at the edges of alkali marshland. It grows in mineralized soil in four distinct locations in the Kern River Valley. It was last reviewed for listing as endangered in 1993 [9-30-1993 58 FR 51144 51190]. It is included in the CNPS Inventory of Rare and Endangered Plants on list 1B.2 (rare, threatened, or endangered in CA and elsewhere).

In 1992, Reed Tollefson, Manager of Audubon Kern River Preserve, surveyed the lilies at the KVLII meadow between Barlow Road and Hwy 178. He counted three populations totaling 4074 plants. The flowering season typically occurs between May 1 and June 4 in the Kern River Valley. In dry years the plant may be dormant. The greatest threat to the seasonally moist alkaline meadow habitat is the lowering of water tables³. Reduction in seepage below the dam and from the Borel Canal may cause a change in the water table which is necessary for the survival of the Lake Isabella populations of Alkali Mariposa Lily.

The Corps must analyze this potentially significant impact and should also provide monitoring wells below the dam to determine how and when the loss of the Borel Canal and/or lack of seepage causes a drop in the local water table. It is possible that the impacts to lily populations by the Corps activity could be partially mitigated by purchase of a conservation easement on the privately owned property adjacent to the KVLII transmission facilities mentioned in the Tricolored Blackbird paragraph above. The Corps must fully consider these impacts and potential mitigation before moving forward with the project.

Loss of non-fossil fuel electrical generating plant

The Corps needs to consider the impact from the loss of the 12-MW carbon neutral hydroelectric power from the Borel Power Plant and mitigate that impact. The Corps has stated it plans on placing two windmills and/or sufficient solar panels to provide only 10% of the electricity needed to power the replacement Sequoia National Forest Service Isabella fire station. In light of climate change, government agencies should be at the forefront of leaving fossil fuels behind.

The Conservation Groups strongly support providing substitute power with solar panels but object to the proposal to place wind turbine in this area. In an area with averages of 6.75-7.75 kWh/m²/day of direct solar radiation⁴ and with the average electric usage of the three Kern River Valley Kern County Fire Stations at 75kW per day⁵, the amount of power generated via solar panels could easily equal 100% of daily usage utilizing already built structures and graded areas with no additional habitat impacts and is likely to be economically viable. In contrast, the placement of windmills in any part of the Pacific Flyway is problematic for migrating species. The Kern River Valley has some of the most biologically diverse habitats in the interior United States, attracting over 300 species of birds annually along with 15 species of bats that may be adversely affected by human

³ Greene, Julie A. (2004) ALKALI MARIPOSA LILY *Calochortus striatus* Parish. Andrew C. Sanders, Herbarium, Dept. of Botany and Plant Sciences, University of California, Riverside, CA 92521-0124

⁴ Concentrating Solar Resource of the Southwest United States; http://www.nrel.gov/csp/pdfs/csp_sw.pdf

⁵ Fide. Dave White, Kern County General Services Energy Coordinator, 3/8/2016

objects built within the flyway. Windmills in the Kern River Valley would cause significant additional impacts to avian species including direct mortality placing at risk, literally millions of individual birds and bats that live in and migrate through the area. Far from mitigating the impacts of the project, these wind turbines could undermine conservation in this area.

Another alternative that was not considered by the Corps is that Isabella Partners⁶ could potentially capture the lost flow of the Borel Canal and increase their power generating capacity at the Isabella Hydroelectric Project powerhouse at the base of the main dam outflow from their average 13.9-MW⁷ to recapture the non-fossil fuel energy of the water flowing through the dam.

Concerns about reservoir at capacity and increased capacity

At the Corps meeting in Kernville, CA on February 24, 2016, the Corps staff stated that the new spillway would be at the height of the current dam, which is 16' above the current dam spillway. The reasoning that they gave for adding more gravel to the dam was to increase the height so that a catastrophic flood event would not destroy the new dam. Please clarify this statement. If true, it means that the Corps intends that the new reservoir capacity can and would exceed the legal limit of 568,000 acre-feet during catastrophic flood events, flooding roadways and other infrastructure, Sequoia National Forest South Fork Wildlife Area, Audubon Kern River Preserve, and local farms and ranches. The reservoir typically reaches peak acre-feet between mid-June and late July, in flood years, when the nests of Southwestern Willow Flycatchers and Western Yellow-billed Cuckoos as well as countless other resident and summer nesting birds would be destroyed if the reservoir exceeded the legal limit of 568,000 acre-feet. The SEA mentions the Southwestern Willow Flycatcher and Western Yellow-Billed Cuckoo, but the SEA fails to consider the impacts to these species in the foraging habitat in the primary seral stage and the nesting habitat in the secondary seral stage riparian forest that now exists in the reservoir bed during such events. The SEA discussed conditions for wetland dependent species and riparian vegetative communities downstream of the dam, but fails to discuss the riparian habitat dependent species that have and will utilize the new vegetation that has grown in the reservoir bottom with the drawdown of the reservoir upstream of the dam that will be impacted when the reservoir is flooded. The SEA fails to state that the new reservoir capacity will cause substantial loss, degradation, and fragmentation of the natural riparian habitat communities and wildlife in the bed of the reservoir or in the upstream channels of both the north and

⁶http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/isabella_fer_c8377/isabella_cert.pdf

⁷ <http://www.energyalmanac.ca.gov/renewables/hydro/>

south forks of the Kern River when the implemented project floods the reservoir up to and potentially beyond the legal limit.

The southern San Joaquin Valley is in serious overdraft due to use of groundwater in areas where aquifers are no longer recharged by the natural lakes and marshes as Isabella and Success Reservoirs are controlling the water that once flowed freely to the Buena Vista Basin. Kern Lake was a 24,000 acre capacity lake, Buena Vista was a 34,000 acre capacity lake, and Goose Lake was a series of meandering sloughs and marshes that fed into Tulare Lake, which was a 486,000 acre capacity lake. The Corps reservoirs in the Kern River Valley and Springville are directly responsible for loss of significant recharge in those valley groundwater storage areas. These natural lakes and marshes were home to millions of nesting birds, reptiles, and fish. Adding an additional 75,500 acres of storage behind the dam that is increased by 16' will not prevent a catastrophe but actually increase the likelihood of a catastrophe of the commons. Utilizing the natural lakes for the storage of excess runoff would help replenish aquifers and prevent further ground subsidence in the San Joaquin Valley and be far less costly in the long run.

Much of the tourism infrastructure of the Kern River Valley including parking areas, boat ramps, and campgrounds lies at approximately the 360,000 acre-foot level of reservoir capacity. The flooding of these resources reduces the economic stability of the Kern River Valley and increases pressure on upstream resources and facilities. The optimum level of the reservoir should be maintained between 300,000 and 360,000 acre-feet absent of drought conditions to continue the recreational benefit of the reservoir while maintaining its value for irrigation and flood control. The natural lakes and marshes of the southern San Joaquin Valley should be used as nature intended to hold flood waters. The Corps must consider this alternative before moving forward with a project that would increase the dam capacity further.

Unconsolidated fill, liquefaction, and mass wasting

The instability of the fill beneath the auxiliary dam remains a concern especially with increased reservoir capacity and therefore increased pressure on the dam in a potential seismic event. Liquefaction of unconsolidated material is a real danger. Eroded sand from the Sierra Nevada is very fine and has created serious quicksand pockets. The Corps plan states the dam will be built to withstand a 13-foot displacement, but the 1872 earthquake in Lone Pine had an average 16-foot displacement.

Most troubling is the Corps plan to dump excavated material on top of the Kern Canyon fault at Engineer Point. Even a relatively mild seismic event may cause mass wasting of the fill on Engineer Point into the reservoir at its deepest point, creating a lake tsunami that

could overtop the dam⁸ and damage nearby infrastructure with no warning. We strongly encourage finding another site to dump excavated material and that the Corps consider ways to beneficially reuse this material. For example, the construction of a predator and human free island with the excavated material in the center of the south fork channel could potentially mitigate the loss of Buena Vista Lake's now extinct Pelican Island. The Corps must consider this and other alternatives to dumping at Engineer Point to prevent the risk of mass wasting near the dam structures and potentially mitigate the loss of that habitat from the project.

Consider reuse of the decommissioned Borel Canal right of way for a commuter bike path

The Corps should consider ways to convert the entire Borel Canal right of way that is not under the reservoir into a community resource; as an example for use as a commuter bike path. While the staff at the Corps meeting in Kernville, CA on February 24, 2016 believed the Corps is only responsible for the easement on the Borel Canal, that belief is not a true measure of the responsibility the Corps bears with regard to creating an attractive nuisance with the abandoned canal caused by their project. Converting this right-of-way into a commuter bike path, especially considering its proximity to three schools on Erskine Creek Road in Lake Isabella, would be a very important conversion for the benefit of the community that will be losing jobs associated with the shuttering of the Borel Power Plant. It is possible that working with local agencies and SCE, funding could be acquired through Transportation Development Act: Article 3 for Kern County Roads. These funds could be acquired and used to pave and upgrade the canal for commuter bike transportation uses, which could be a major step in preventing motor vehicle hazards.

Bicycling is one of the greenest methods of travel, but roads are inherently dangerous for cyclists. Annually two percent of traffic fatalities involve bicycle/vehicle collisions. Twenty-nine percent of all bicycle injuries are caused by vehicle collisions⁹. Isolated bike lanes via a Class I Bikeway¹⁰ is the best solution. A commuter bike path may also be utilized by recreational hikers and other non-motorized users increasing tourism revenue that will partially offset the loss of hydroelectric jobs. The conversion of this right-of-way to a commuter bike path would also help mitigate the carbon footprint of construction.

Awarding contracts prior to completing this SEA

⁸ Nadin, E. S. and Jason Saleeby. 2010. Quaternary reactivation of the Kern Canyon fault system, southern Sierra Nevada, California. GSA Bulletin; September/October 2010; v. 122; no. 9/10; p. 1671–1685; doi: 10.1130/B30009.1

⁹ http://www.pedbikeinfo.org/data/factsheet_crash.cfm#No1

¹⁰ <http://www.dot.ca.gov/hq/oppd/hdm/pdf/chp1000.pdf>

The Corps stated at the SEA Borel meeting in Kernville, CA on February 24, 2016 that they would be building vault toilets as mitigation for the taking of the camping facilities. When we mentioned the potential for using composting toilets, the Corps staff stated they had already started the bid process. If the SEA is not anticipated to be complete until May, no contracts should already be out to bid. Such pre-decisional actions violate both the letter and the spirit of NEPA and its public review component.

Given the above provided information we urge the Corps to reanalyze the impacts of the project on biological resources and revise the SEA to fully analyze all impacts, include additional alternatives, and consider additional mitigation measures.

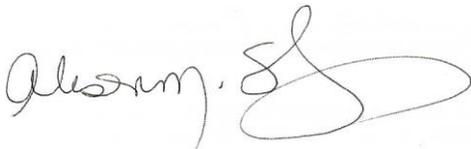
Respectfully submitted,



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