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TransCanada – Keystone Pipeline Contact Summary Form

Location of Meeting ENSR
Date/Time of Meeting March 5, 2007
Keystone Team Member(s) Sara Stribley

Contact Information:

Name	Nate Davis
Title	Aquatic Ecologist
Organization	Kansas Department of Wildlife and Parks
Address	512 Southeast 25th Avenue Pratt, KS 67124
County	
Phone	(620) 672-5911 ext 195
E-mail address	nated@wp.state.ks.us

Meeting Information:

Type of Contact (phone, in-person, etc.): Phone

Issue: Stream Crossing BMPs

Concern Level: High Moderate Low

Description:

Nate returned my call regarding a message I had left last week on stream crossing BMPs. Nate said that he did not have any additional guidance apart from what has been included in his consultation letters.

In regards to the Neosho madtom, Nate stated that the project did not cross its critical habitat, but came very close to it. If surveys determined the habitat to be unsuitable for the madtom, there would not be any stream crossing restrictions at the Cottonwood river.

In regards to the two SINC mussel species along the Cushing Extension, he is more concerned about viable mussel beds at the Cottonwood River and Doyle creek than he has concern specifically for the fawnsfoot and creeper mussels. He wants us to conduct surveys to ensure that the pipeline will not destroy any mussel beds at the Cottonwood River and Doyle Creek.

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TransCanada – Keystone Pipeline Contact Summary Form

Location of Meeting ENSR

Date/Time of Meeting February 12, 2007

Keystone Team Member(s) Sara Stribley

Contact Information:

Name	Nate Davis
Title	Aquatic Ecologist
Organization	Kansas Department of Wildlife and Parks
Address	512 Southeast 25th Avenue Pratt, KS 67124
County	
Phone	(620) 672-5911 ext 195
F-mail address	nated@wp.state.ks.us

Meeting Information:

Type of Contact (phone, in-person, etc.): Phone

Issue: Biological Survey Report and 2007 Biological Survey Proposal follow-up

Concern Level: High___Moderate___Low_____

Description:

Nate Davis returned my call in regards to the 2007 biological survey package and 2006 biological survey reports we sent to him for the Keystone Mainline and Cushing Extension. Nate referred me to the email sent to Charles Johnson (ENSR) on February 4, 2007. This email constitutes the KDWP's formal response to the 2006 Kansas Topeka shiner report and 2007 biological survey proposal package submitted to the agency.

No further sampling will be required at the two unnamed tributaries to North Elm Creek, unless the FWS recommends further sampling. If the open-cut trench method is used to cross the mainstem of North Elm Creek, a spawning restriction will apply. A sample and relocate effort will be required at least one-week prior to the crossing of the North Elm Creek when construction does occur. The same spawning restrictions and sample and relocate efforts will be required along the Cushing Extension for the Topeka shiner where suitable habitat is crossed.

Nate clarified that in the October 31, 2006, KDWP Cushing Extension response letter, he incorrectly classified critical habitat for the Arkansas river shiner, silver chub, and speckled chub at the Republican River. The Republican River is not critical habitat for these three species where the Cushing Extension crosses the river. No surveys would be required at the Republican River for these three aquatic species. However, Nate did reiterate that the bald eagle is known to nest at the Republican River, and the removal of any riparian timber will impact this species and will require an action permit. The Arkansas river is critical habitat for the river shiner, silver chub, and speckled chub. Surveys, and spawning

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restrictions and sample relocate efforts will be required.

Surveys should be conducted at the unnamed tributary to the Arkansas River for the Arkansas darter. If suitable habitat exists within the ROW, spawning restrictions will apply to this stream crossing; however, sample and relocate efforts will not be required.

Nate clarified that the South Fork Big Nemaha is critical habitat for the western silvery minnow and flathead chub, and that surveys, spawning restrictions, and sample and relocate efforts will be required at the mainstem crossing. Previously Nate had thought the crossing of the Wolf River and Tributaries were in critical habitat for these two species, but he clarified that through closer examination he determined that these crossings are *not* within critical habitat, and no surveys would be needed.

Nate also strongly suggested that ENSR put together a mitigation plan for riparian woodland losses along the Keystone Mainline and Cushing Extension. The KDWP will require compensation for all riparian woodland losses on a per-acre basis and wants to know how Keystone plans on implementing the mitigation. Nate suggested that Keystone could use a fee system for mitigation and that the Kansas Alliance for Wetlands and Streams (KAWS) could serve as the recipient of the monetary mitigation. Nate has estimated that approximately 65 acres of riparian woodland will be lost along the Keystone Mainline and that the cost per acre of riparian woodland will be approximately \$602.00/acre. Keystone could also choose to revegetate the ROW or work with farmers on conservation districts to mitigate for riparian woodland losses.

I briefly walked through the survey schedule for the Mainline and Cushing Extension that was included in the 2007 biological survey package that was sent to Nate. Nate stated that everything else, besides the topics discussed above, regarding the survey schedule and protocols looked good and that he was satisfied with the survey plans for 2007.

Issue: _____

Concern Level: High __ Moderate __ Low __.

Description:

Stribley, Sara

From: Johnson, Charlie
Sent: Sunday, February 04, 2007 8:38 AM
To: Stribley, Sara; Ellis, Scott; Castle, Carla; Dufresne, Doree; Tillquist, Heidi
Subject: FW: Keystone & Cushing extension
Attachments: Spawning dates.xls

FYI

From: Davis, Nate [mailto:nated@wp.state.ks.us]
Sent: Friday, February 02, 2007 2:41 PM
To: Johnson, Charlie
Cc: vernon_tabor@fws.gov
Subject: Keystone & Cushing extension

KDWP Track: 20060054 CO: Multiple Ref: D5.0101

Charlie,

Please consider this email our formal response to the two reports submitted.

Field survey of suitable habitat and fish sampling for the Topeka Shiner (Notropis topeka) for the Keystone pipeline in Kansas and Missouri

Keystone pipeline project proposed threatened and endangered species surveys for 2007

KEYSTONE: If open-cut trench is used on the mainstem crossings of North Elm (which I presume is still the plan) the permit from KDWP will require a sample relocate effort at least one-week prior to the actual construction at these two crossings if pools >3' max depth are present. Keep in mind, this will be required even if the construction occurs outside of the spawning season dates. If the stream is dry or only shallow pools exist when construction occurs, no sampling would be required, but spawning date restrictions still apply. As far as additional sampling on the UNTribs to North Elm, this is not required since suitable hydrology is not likely to be present (ie. "marginal habitat" as described in the report). However, if the USFWS recommends sampling at these tribs, we support their recommendation. We still need to discuss the mitigation of riparian woodland losses & how that will be implemented.

CUSHING:

Topeka Shiner: The issue with Topeka Shiners will be the same as with the Keystone Pipeline. A permit will be required at streams with suitable habitat, spawning date restrictions will be in place, and a sample-relocate effort will be necessary at these locals as well.

Arkansas River Shiner/Silver Chub/Speckled Chub - I made a mistake in my response letter Oct 31, 2006. The Republican River in Clay County is not listed by KDWP as critical habitat for any of these aquatic species; however, riparian timber 100 yards landward is habitat for the Bald Eagle. Since the report indicates surveys will be conducted at the Republican River crossing for Bald Eagles, the issue has been addressed. No survey work or special restrictions regarding the above listed aquatic species will be necessary at the Cushing's Republican River crossing. The proposed survey work at the Arkansas River crossing in Cowley County is still applicable, and permit restrictions for spawning dates will apply for this river crossing if trench-cut is used.

2/4/2007

All other proposed surveys for the remaining species look appropriate. I've attached a list of spawning season date restrictions for your use.

Thank you,

Nate Davis

Ecologist;KDWP,Environmental Services Section;512 SE 25th Ave,Pratt,KS 67124
620.672.0795 (O)620.450.8311 (C),nated@wp.state.ks.us

http://www.kdwp.state.ks.us/news/other_services/threatened_and_endangered_species

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Spawning Date Restrictions for Action Permit Conditions

Arkansas Darter	March 1-May 31
Arkansas River Shiner	June 1-August 30
Blackside Darter	April 1-May 15
Chestnut Lamprey	April 15-November 15
Flathead Chub	July 1-August 15
Hornyhead Chub	May 1-July 1
Neosho Madtom	May 21-July 15
Pallid Sturgeon	June 1-July 31
Redspot Chub	May 1-July 1
Sicklefin Chub	May 1-June 30
Silver Chub	
Silverband Shiner	July 1-August 15
Speckled Chub	May 15-August 31
Sturgeon Chub	May 1-June 30
Topeka Shiner	May 15-July 31
Western Silvery Minnow	June 1-August 15

Stribley, Sara

From: Davis, Nate [nated@wp.state.ks.us]
Sent: Monday, January 22, 2007 6:02 AM
To: Stribley, Sara
Subject: RE: Keystone ENSR - Fish Survey Protocols

Sara,

We do not have species-specific survey techniques. There are differences in the methodology for these various species; however, our agency has not produced a document describing them. They are difficult to conceptually demonstrate w/o hands-on training. That being said, there is lots of literature work on these species and I'm sure a quick lit. review could find papers describing survey methodology. If you plan on contracting with Dr. Stark for these surveys, he is qualified and knows the techniques to use & time frame to do the sampling. If you have someone who is not familiar with the techniques, they should contact our office & either myself or someone from our stream survey crew could show them. I should be available for a conference call on either of those dates; however, it may be via cell phone.

I am reviewing the Topeka Shiner report pertaining to the Keystone project in North-east/central Kansas, and just received the survey program for the pipeline (Cushing extension included). I hope to have these reviewed prior to a conf. call so if you can let me know what date you'de like to shoot for, let me know ASAP.

Thanks

Nate Davis

Ecologist;KDWP,Environmental Services Section;512 SE 25th Ave,Pratt,KS 67124

20.672.0795 (O)620.450.8311 (C),nated@wp.state.ks.us

http://www.kdwp.state.ks.us/news/other_services/threatened_and_endangered_species

----- Original Message -----

From: "Stribley, Sara"

Sent: Mon, 1/15/2007 3:19pm

To: "Davis, Nate"

Subject: Keystone ENSR - Fish Survey Protocols

Hi Nate,

A few questions for you? Do you have any survey recommendations or protocols for the following species:

Arkansas darter
Arkansas river speckled chub
Silver chub
Arkansas river shiner
Neosho madtom

I am mainly looking for guidance on seining techniques, seine net size, survey width, survey period, etc.

Also, would you be available for a conference call the week of January 29th or February 12th instead of meeting in person? You mentioned in your last email that you would be out of town the week of February 5th, so I'm wondering if either of these other weeks would work for you?

Thanks Nate!

Sara

Sara Stribley

3/2/2007

Environmental Coordinator

ENSR | AECOM

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January 17, 2007

Nate Davis
Kansas Department of Wildlife and Parks
Environmental Services Section
512 SE 25th Ave
Pratt, KS 67124

Dear Mr. Davis:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the 2007 biological survey program for the Keystone Mainline and Cushing Extension Pipeline Project in Kansas, and requesting your feedback and concurrence on certain proposed actions.

Project Description

As provided in previous communications, TransCanada is planning to construct and operate an approximately 1,845-mile-long interstate crude oil transmission system from an oil supply hub near Hardisty, Alberta, Canada, to destinations in the Midwestern United States (U.S). The proposed Project would consist of approximately 1,078 miles of new pipeline constructed from the U.S.-Canada border in Cavalier County, North Dakota, to terminals and refineries in Wood River (Madison County) and Patoka (Marion County), Illinois. This pipeline is referred to as the Keystone Mainline. Approximately 283 miles of the Keystone Mainline would parallel the proposed Rockies Express Pipeline - West (REX-West) Project in Kansas and Missouri. In addition, TransCanada proposes to construct a 292-mile pipeline extension (Cushing Extension) that would extend from the Keystone Mainline south from the Nebraska/Kansas border to Cushing, Oklahoma. TransCanada proposes to begin construction of the Keystone Mainline in early 2008, with the system in-service by the end of 2009. Work on the Cushing Extension will begin in late 2009 or early 2010, with a Cushing Extension in-service date of 2010. The project also will require the construction of pump stations, valves, meters, and other ancillary facilities. The hydraulic characteristics of the pipeline will determine pump station and valve locations. Electrical powerlines and facility upgrades will be required in some locations to provide power for the new pump stations, though these facilities will be constructed by local utility companies, not Keystone.

Biological Survey Program

In 2006, biological surveys were initiated for several species potentially located along the Keystone Mainline Project route in Kansas. ENSR sent these 2006 biological survey reports to the Kansas Department of Wildlife and Parks (KDWP), and the U.S. Fish and Wildlife Service (USFWS) in December, for review and evaluation. Additional surveys are planned throughout 2007 for the species surveyed in 2006, and for the majority of remaining sensitive species that may be located within the Keystone Mainline and Cushing Extension Project vicinity (see attached survey schedule). Sensitive species and survey locations have been determined through consultation with the KDWP, the Kansas Natural Heritage Program, and the USFWS. Some survey areas have been refined based on information obtained through habitat surveys conducted in 2006. To facilitate your review of the 2007 Keystone Mainline and Cushing Extension biological survey program, ENSR is providing you with the following materials, and asking for your signed concurrence on several proposed actions:

Nate Davis
January 17, 2007
Page 2

- Proposed Threatened and Endangered Species Survey Schedule (2006-2007) – This document is provided to give an overview of when and where species specific surveys have been, and will be conducted in Kansas. Please sign and return the survey schedule concurrence form as “concur” or “do not concur.” Please also provide specific comments in the area provided if you “do not concur,” in order for ENSR to promptly address concerns.
- Biological Survey March-Charts (2007) – These charts are provided as a visual tool to guide your assessment of the proposed Threatened and Endangered species surveys. The y-axis provides information on approximate survey windows. This axis shows the general timeframe in which ENSR proposes to complete the surveys for a specific species (based on nesting, spawning, flowering periods, etc.) The x-axis provides information on the Mainline or Cushing Extension milepost marker where appropriate habitat has been determined to exist for a species. This axis shows where ENSR proposes to complete species specific surveys.
- Survey Protocols – These documents provide detailed information on how specific surveys will be conducted for Threatened and Endangered species. Wherever possible, survey protocols were produced directly from state or federal agency feedback. Please sign and return the survey protocol concurrence form as “concur” or “do not concur.” Please also provide specific comments in the area provided if you “do not concur,” in order for ENSR to promptly address concerns.
- 1:100k U.S. Geological Survey (USGS) Topographic Maps of the Keystone Mainline and Cushing Extension in Kansas – Provided for geographic reference to the Project.

Additional copies of these materials are enclosed for distribution to other state wildlife representatives. Copies of these reports also have been sent to John Cochran (Nebraska USFWS – Project Lead). ENSR also would like to meet with you in early February to discuss this material in further detail, and you should have already been contacted by ENSR regarding a meeting date and time. If you have any questions regarding the enclosed materials, please contact me at (970) 493-8878 ext. 181 or email cjohnson@ensr.aecom.com.

Sincerely,



Charles Johnson
Senior Wildlife Biologist

CJ/ss

Ref: 10623-004

Enc: Proposed Threatened and Endangered Species Survey Schedule
Biological Survey March-Charts
Survey Protocols
1:100k USGS Topographic Maps

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Keystone Pipeline Project Survey Schedule Concurrence Form

____ CONCUR	Signature:
	Name:
____ DO NOT CONCUR	Title:
	Date:

If you checked "DO NOT CONCUR," please provide reasons and specific directions in the space provided below on how survey schedule should be changed to meet your acceptance:

--

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Keystone Pipeline Project Survey Protocol Concurrence Form

____ CONCUR	Signature:
	Name:
____ DO NOT CONCUR	Title:
	Date:

If you checked "DO NOT CONCUR," please provide reasons and specific directions in the space provided below on how survey protocols should be changed to meet your acceptance:

--

**Keystone Pipeline Project
Proposed Survey Schedule for Kansas – Mainline
2006-2007**

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Completed 2006 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Raptors	March 28 – April 1	MP: 649.3-748.3 (Marshall, Nemaha, Brown, Doniphan counties)	An aerial survey was conducted to identify raptor nest sites and breeding territories within at least 0.25 miles of the proposed ROW.	Karen Caddis, Charles Johnson – ENSR Senior Wildlife Biologists	
Topeka shiner <i>Notropis Topeka</i> FE; KS-T/CH	September 25-28, and October 2-4	Marshall: 659.5 (Trib. of North Elm Creek)	Habitat surveys and fish occurrence surveys will be conducted to document habitat suitability, intermittent/perennial flow, spawning habitat, and species occurrence.	William Stark, Ph.D. – ENSR aquatic biologist	

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Bald eagle <i>Haliaeetus leucocephalus</i> FT; KS-T	January/February	Marshall: 653.5 (Big Blue River) Doniphan: 748.3 (Missouri River)	Aerial survey to locate winter roosts and eagle nests along major river crossings in ROW. Survey will be conducted 1-mile from the construction ROW.	Mike Phelan, Karen Caddis – ENSR wildlife biologists	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding/ winter roost seasons for this species.
Raptors	March-April	MP: 649.3-748.3 (Marshall, Nemaha, Brown, Doniphan counties)	Aerial survey to locate occupied nest sites and breeding territories within at least 0.25 miles of the proposed ROW.	Mike Phelan – ENSR wildlife biologist.	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding season.

Keystone Pipeline Project
 Proposed Survey Schedule for Kansas – Mainline
 2006-2007

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Topeka shiner Notropis Topeka FE; KS-T/CH	Spawning Season: 15-May to 31-July	Marshall: 658.8, 659.5 (Trib. of North Elm Creek)	Based on the FWS and KDWP review of the 2006 survey report, further surveys may be required. Further habitat and fish surveys may be conducted to document habitat suitability; intermittent/ perennial flow; spawning habitat, and species presence.	William Starks, Ph.D. – ENSR aquatic biologist	See attached survey protocol. In 2008, if stream channels identified in 2007 as having T. shiner populations are dry, open cut crossing would be appropriate. Construction would not be permitted during the spawning period (May 15 to July 31) if the crossing is wet. Obtain necessary permits from the state and federal agencies if salvage and relocation is conducted prior to

**Keystone Pipeline Project
Proposed Survey Schedule for Kansas – Cushing Extension
2007**

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Bald eagle <i>Haliaeetus leucocephalus</i> FT; KS-T	January/February	Washington: 4.4 (Little Blue River) Clay: 50.3 (Republican River) Dickinson: 76.3 (Smoky Hill River) Marion: 117.1 (Cottonwood River) Butler: 140.2 (E. Branch Whitewater River), 158.3 (Whitewater River) Cowley: 206.8 (Arkansas River)	Aerial survey to locate winter roosts and eagle nests along major river crossings in ROW. Survey will be conducted 1-mile from the construction ROW.	Mike Phelan, Karen Caddis – ENSR wildlife biologists	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding/ winter roost seasons for this species.
Raptors	April	MP: 0-212 (Washington, Clay, Dickinson, Marion, Butler, Cowley counties)	Aerial survey to locate occupied nest sites and breeding territories within at least 0.25 miles of the proposed ROW.	Mike Phelan – ENSR wildlife biologist.	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding season.
Topeka shiner <i>Notropis Topeka</i> FE; KS-T/CH	Spawning Season: 15-May to 31-July	Dickinson: 86.2 (Cary Creek), 91.4 (Trib. to W. Branch Lyon's Creek), 92.3 (W. Branch Lyon's Creek), 96.2 (Lyon's Creek), 97.0, 98.7 (Trib. to Lyon's Creek)	Habitat surveys will be conducted to document habitat suitability; intermittent/perennial flow; and spawning habitat. One sampling survey may be conducted to determine species presence at stream crossings, if needed.	Qualified ENSR aquatic biologist or contractor.	See attached survey protocol. In 2009, if stream channels identified in 2007 as having T. shiner populations are dry, open cut crossing would be appropriate. Construction would not be permitted during the spawning period (May 15 to July 31) if the crossing is wet.

**Keystone Pipeline Project
Proposed Survey Schedule for Kansas – Cushing Extension
2007**

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Arkansas River shiner <i>Notropis girardi</i> FE-T; KS-E	Spawning season: 1-June to 15-Aug.	Clay: 50.3 (Republican River) Cowley: 206.8 (Arkansas River)	Habitat surveys will be conducted to document habitat suitability; intermittent/perennial flow; and spawning habitat. One habitat and sampling survey to determine species presence at stream crossings, if needed.	Qualified ENSR aquatic biologist or contractor.	Obtain necessary permits from the state and federal agencies if salvage and relocation is conducted prior to See attached survey protocol.
Silver chub <i>Macrhybopsis storeiana</i> KS-E					
Speckled chub <i>Macrhybopsis tetranema</i> KS-E					
Arkansas darter <i>Etheostoma cragini</i> FE-C; KS-T	Spawning season: 15-Feb to 15-July	Cowley: 205.3 (Trib to Arkansas River)	Habitat surveys will be conducted to document habitat suitability; intermittent/perennial flow; and spawning habitat.	Qualified ENSR aquatic biologist or contractor.	See attached survey protocol.

**Keystone Pipeline Project
Proposed Survey Schedule for Kansas – Cushing Extension
2007**

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Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Neosho madtom <i>Notropis placidus</i> FE-T; KS-T	Spawning season: late-June to end-July	Marion: 117.1 (Cottonwood River)	One habitat and sampling survey to determine species presence at stream crossings, if needed. Habitat surveys will be conducted to document habitat suitability; intermittent/perennial flow; and spawning habitat. One habitat and sampling survey to determine species presence at stream crossings, if needed.	Qualified ENSR aquatic biologist or contractor.	See attached survey protocol.
Fawnsfoot <i>Truncilla donaciformes</i> KS-SINC	August	Marion: 117.1 (Cottonwood River), 128.2 (Doyle Creek)	Habitat surveys will be conducted to document habitat suitability; intermittent/perennial flow; and spawning habitat. One habitat and sampling survey to determine species presence at stream crossings, if needed.	Qualified ENSR aquatic biologist or contractor.	See attached survey protocol.
Creeper mussel <i>Strophitus undulates</i> KS-SINC					

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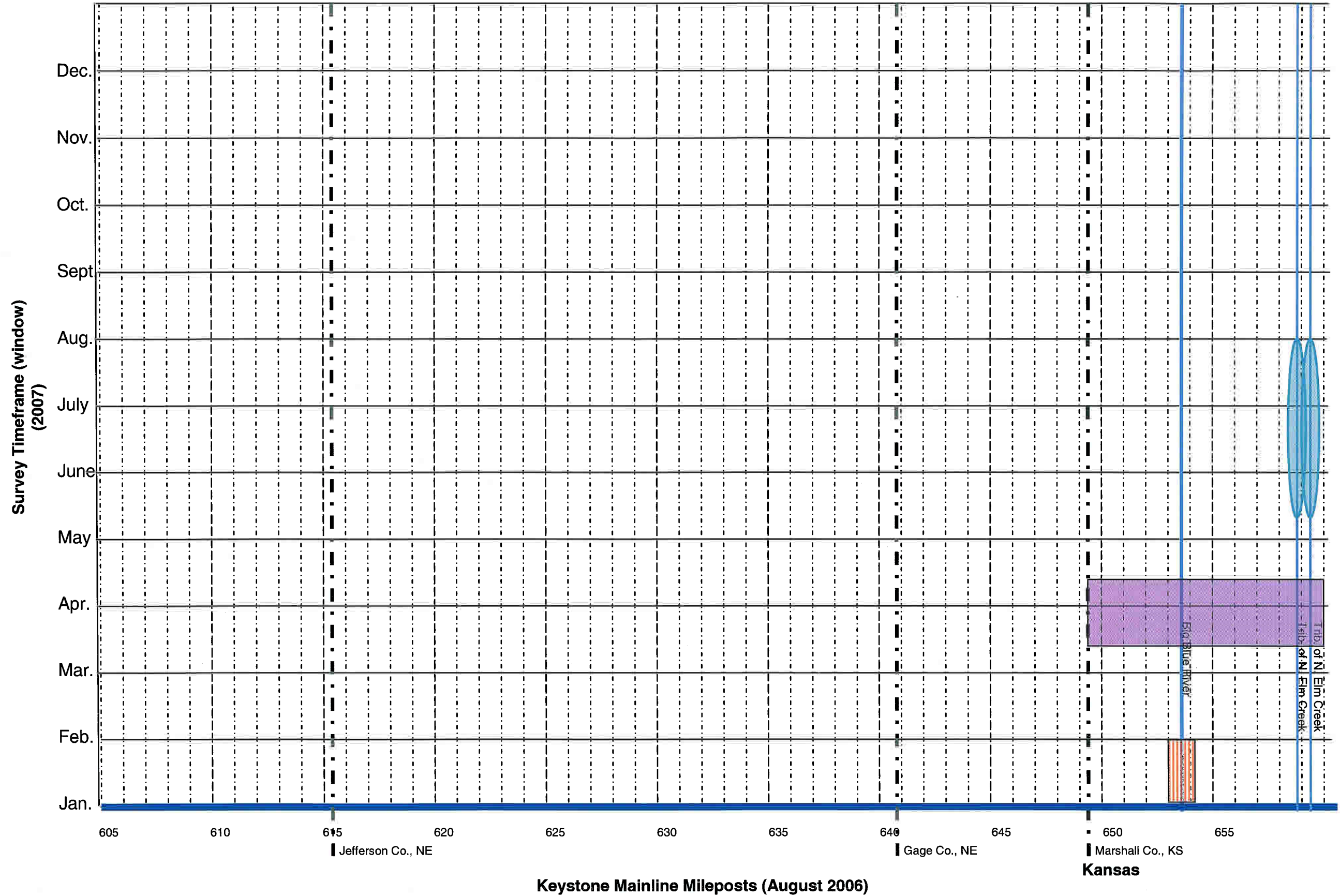
Keystone Pipeline Project Proposed Survey Schedule for Kansas Mainline & Cushing Extension 2006-2007

ID	Task Name	Qtr 2, 2006					Qtr 3, 2006			Qtr 4, 2006			Qtr 1, 2007			Qtr 2, 2007			Qtr 3, 2007			Qtr 4, 2007	
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
1	Completed Raptor Surveys - Mainline		3/28	4/1																			
		Completed Raptor Surveys - Mainline																					
2	Completed Topeka Shiner Habitat Surveys - Mainline							9/25	9/28														
								Completed Topeka Shiner Habitat Surveys - Mainline															
3	Completed Topeka Shiner Fish Surveys - Mainline							10/2	10/4														
								Completed Topeka Shiner Fish Surveys - Mainline															
4	Bald Eagle Winter Roost & Nest Surveys - Mainline & Cushing												1/29	2/10									
													Bald Eagle Winter Roost & Nest Surveys - Mainline & Cushing										
5	Arkansas Darter Habitat Surveys - Cushing												2/15				7/15						
													Arkansas Darter Habitat Surveys - Cushing										
6	Raptor Surveys - Mainline & Cushing												3/15			5/1							
													Raptor Surveys - Mainline & Cushing										
7	Topeka Shiner Habitat Surveys - Cushing (Mainline as needed)															5/15			8/1				
																Topeka Shiner Habitat Surveys - Cushing (Mainline as needed)							
8	Arkansas River Shiner, Silver Chub, Speckled Chub Habitat Surveys - Cushing															6/1			8/15				
																Arkansas River Shiner, Silver Chub, Speckled Chub Habitat Surveys - Cushing							
9	Neosho Madtom Habitat Surveys - Cushing															6/20			8/1				
																Neosho Madtom Habitat Surveys - Cushing							
10	Fawnsfoot and Creeper Mussel Surveys - Cushing																		8/8			8/31	
																			Fawnsfoot and Creeper Mussel Surveys - Cushing				

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Keystone Pipeline Project

Biological Survey March-Chart 2007

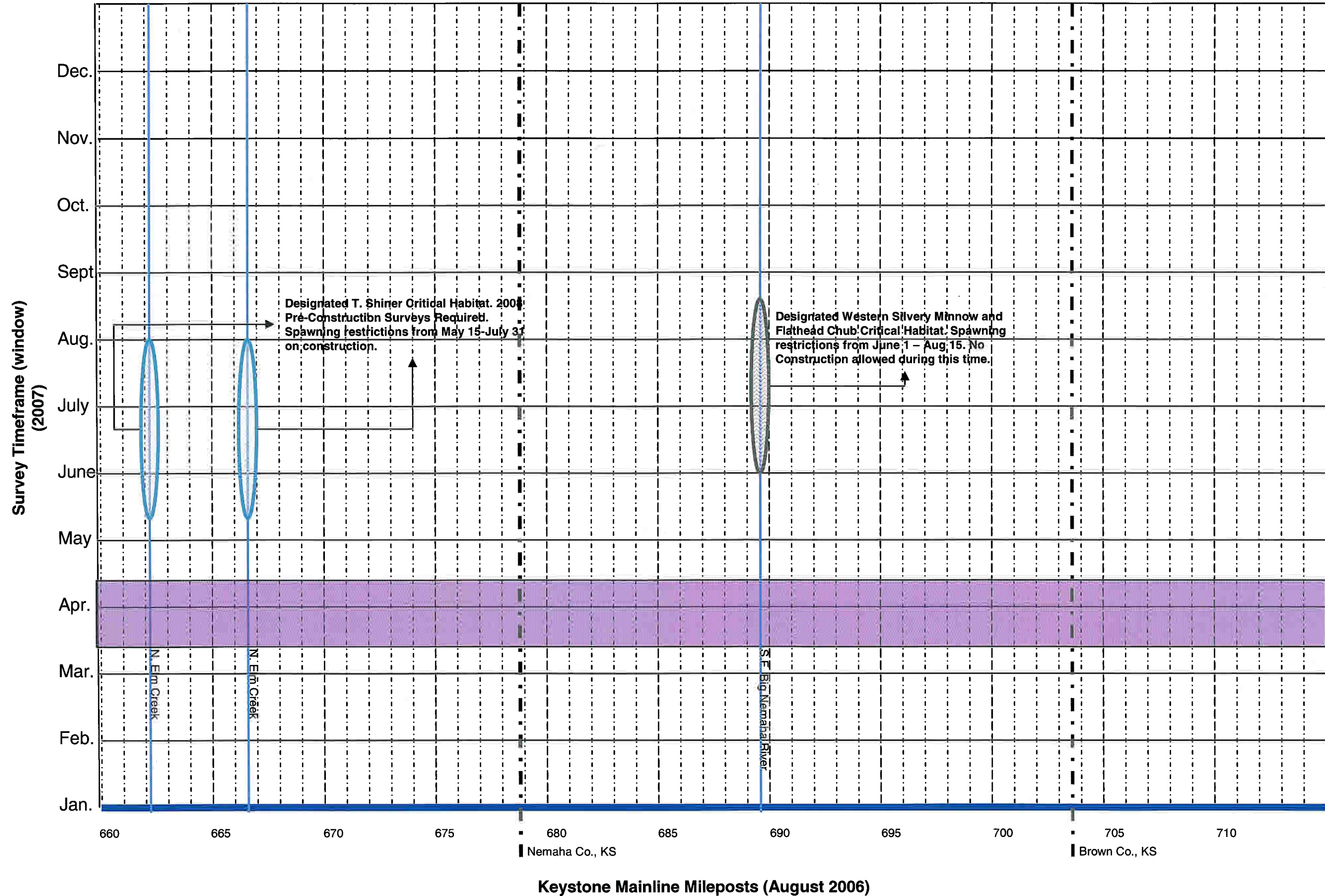


Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

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Keystone Pipeline Project

Biological Survey March-Chart 2007



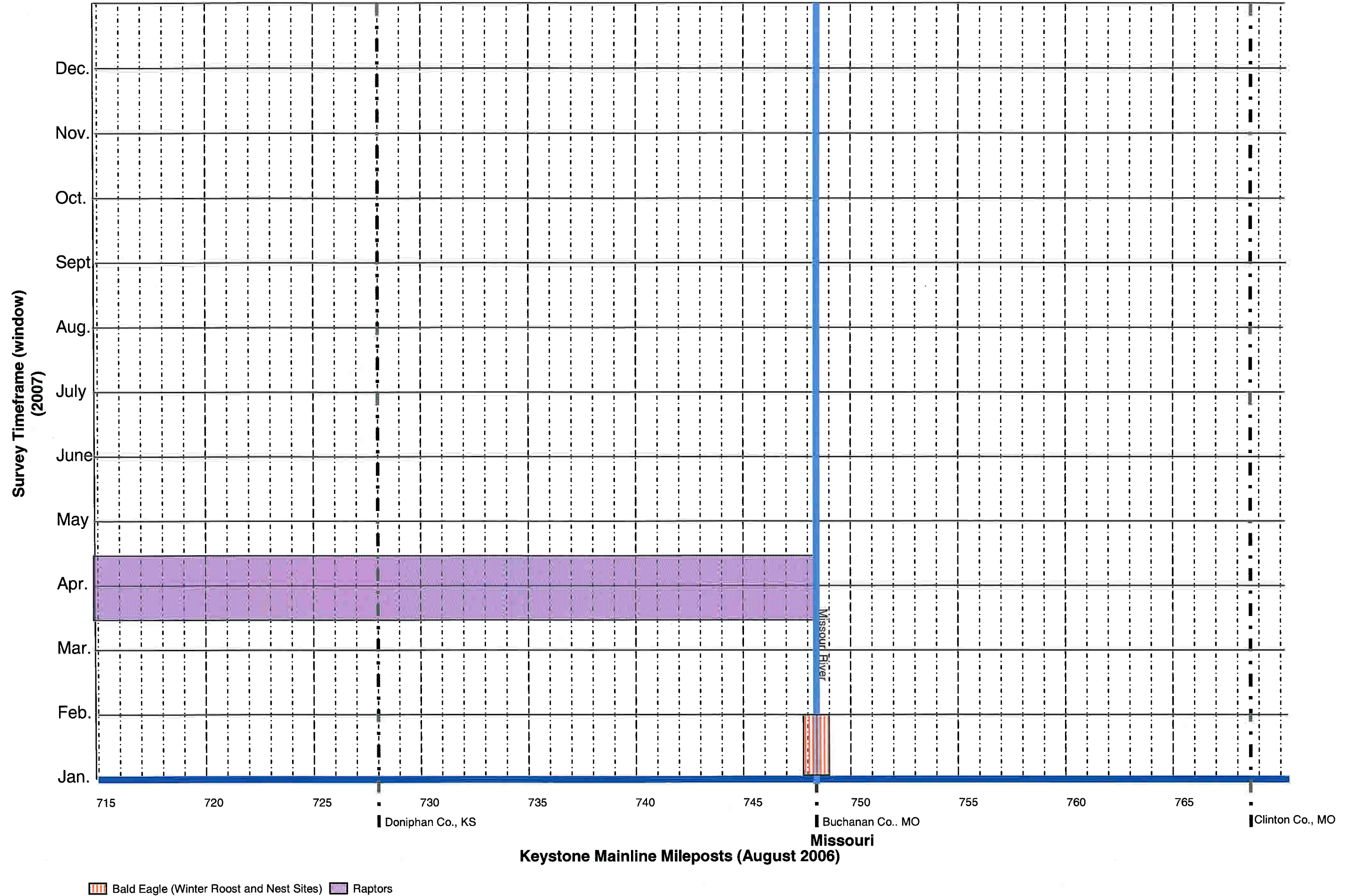
■ Raptors ● Topeka Shiner Critical Habitat; 2008 Pre-Construction Surveys Required ● Western Silvery Minnow, Flathead Chub Critical Habitat; 2008 Pre-Construction Surveys Required.

Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

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Keystone Pipeline Project

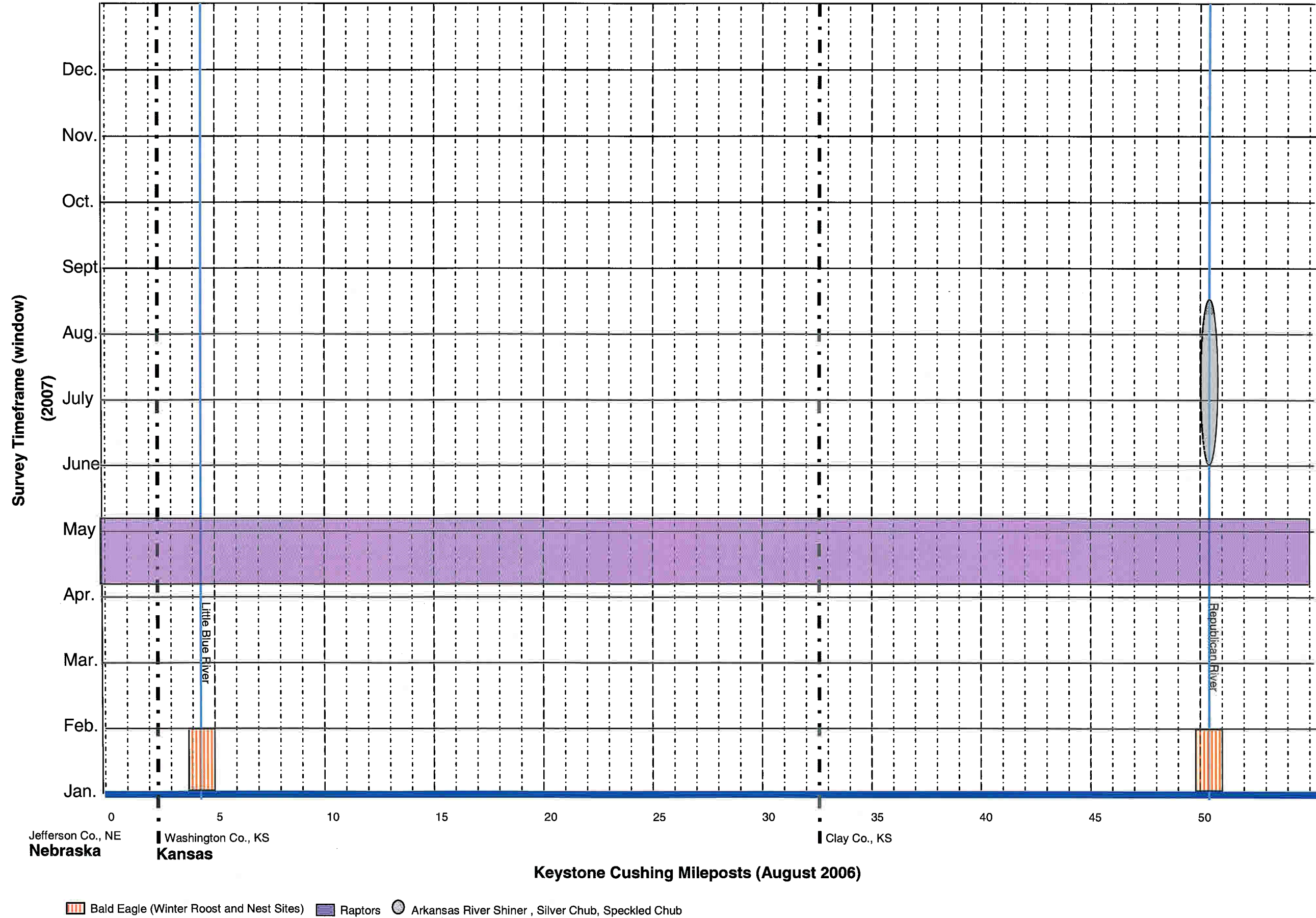
Biological Survey March-Chart 2007



Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project – Cushing Extension

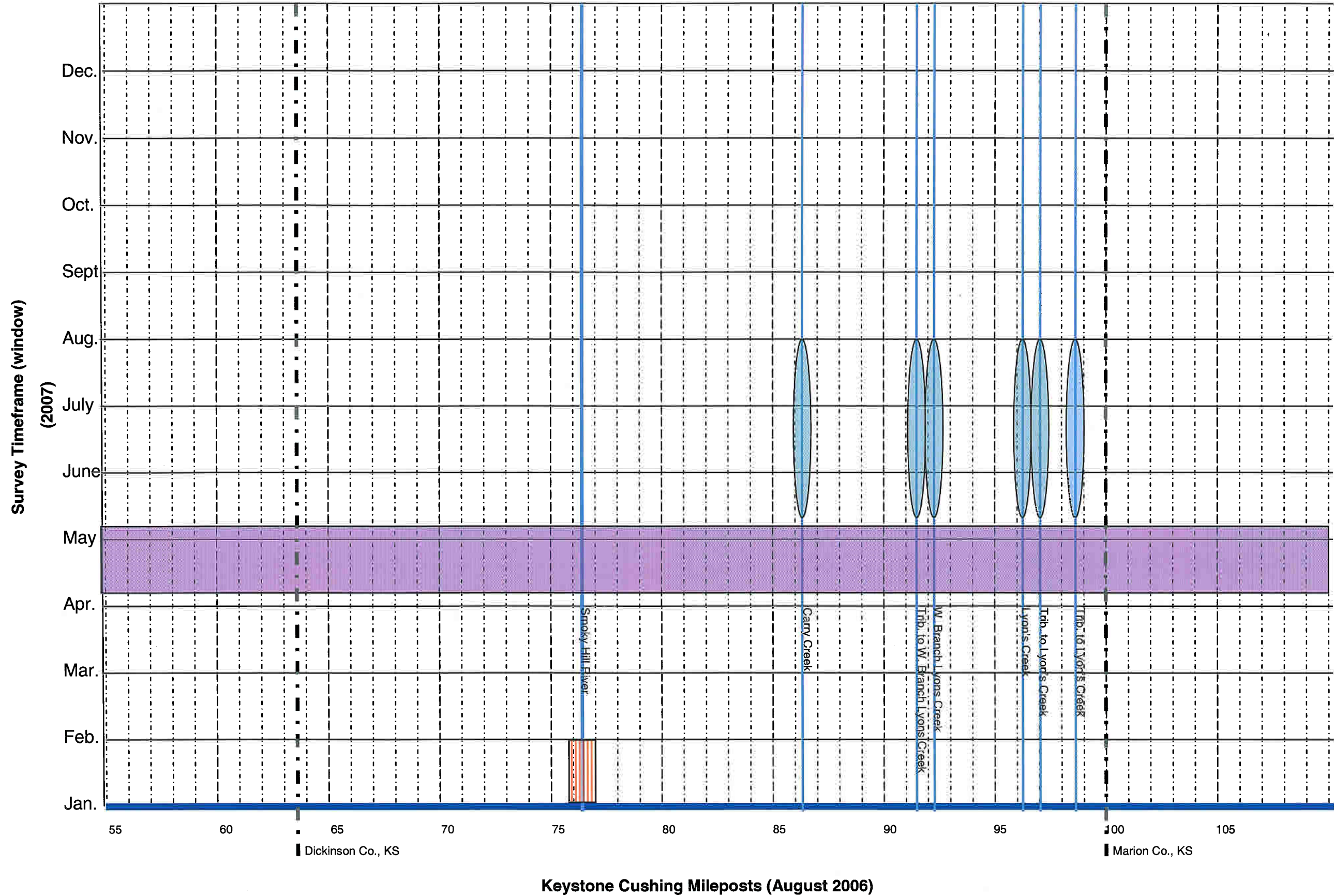
Biological Survey March-Chart 2007



Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project – Cushing Extension

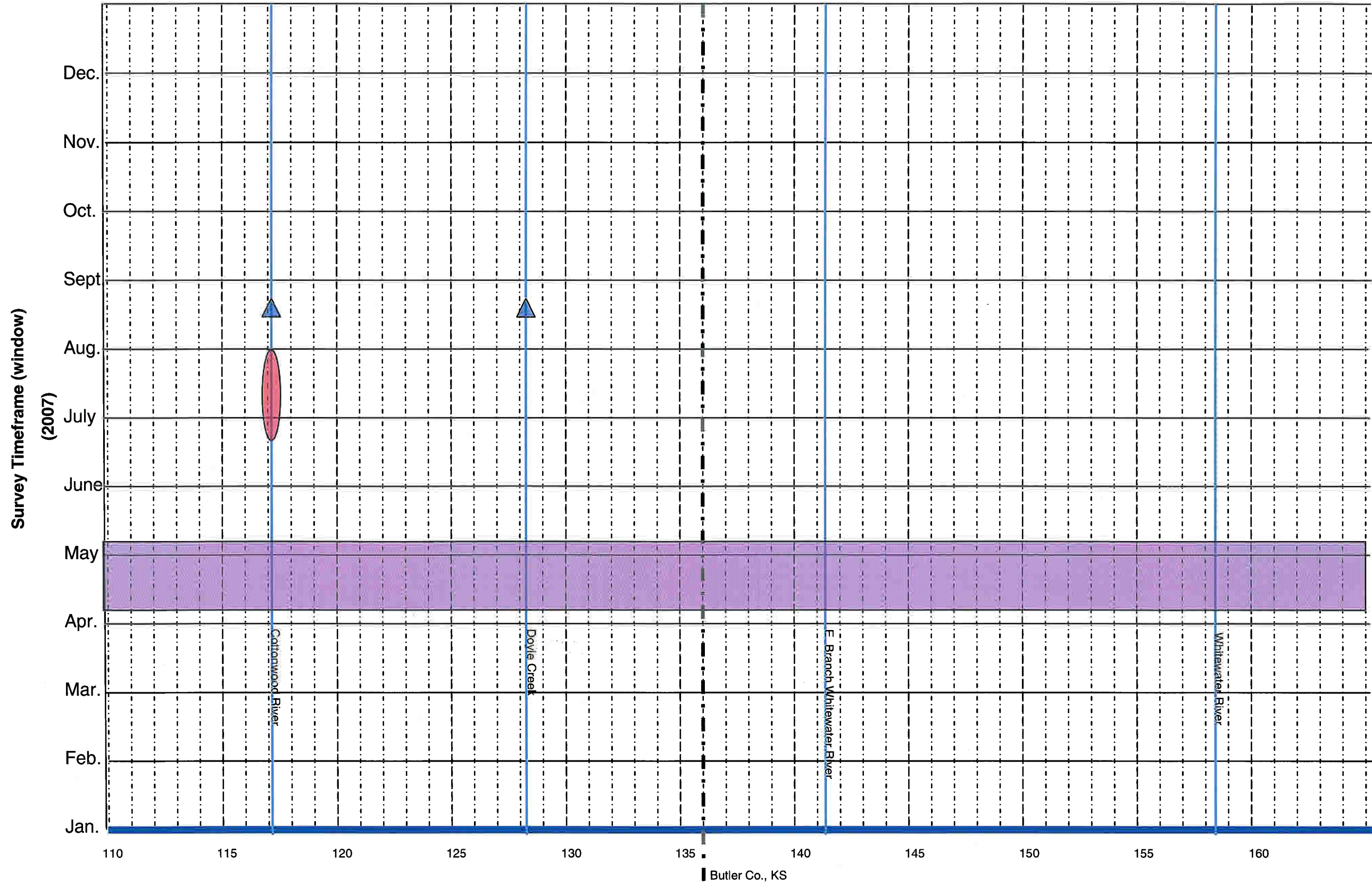
Biological Survey March-Chart 2007



Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project – Cushing Extension

Biological Survey March-Chart 2007



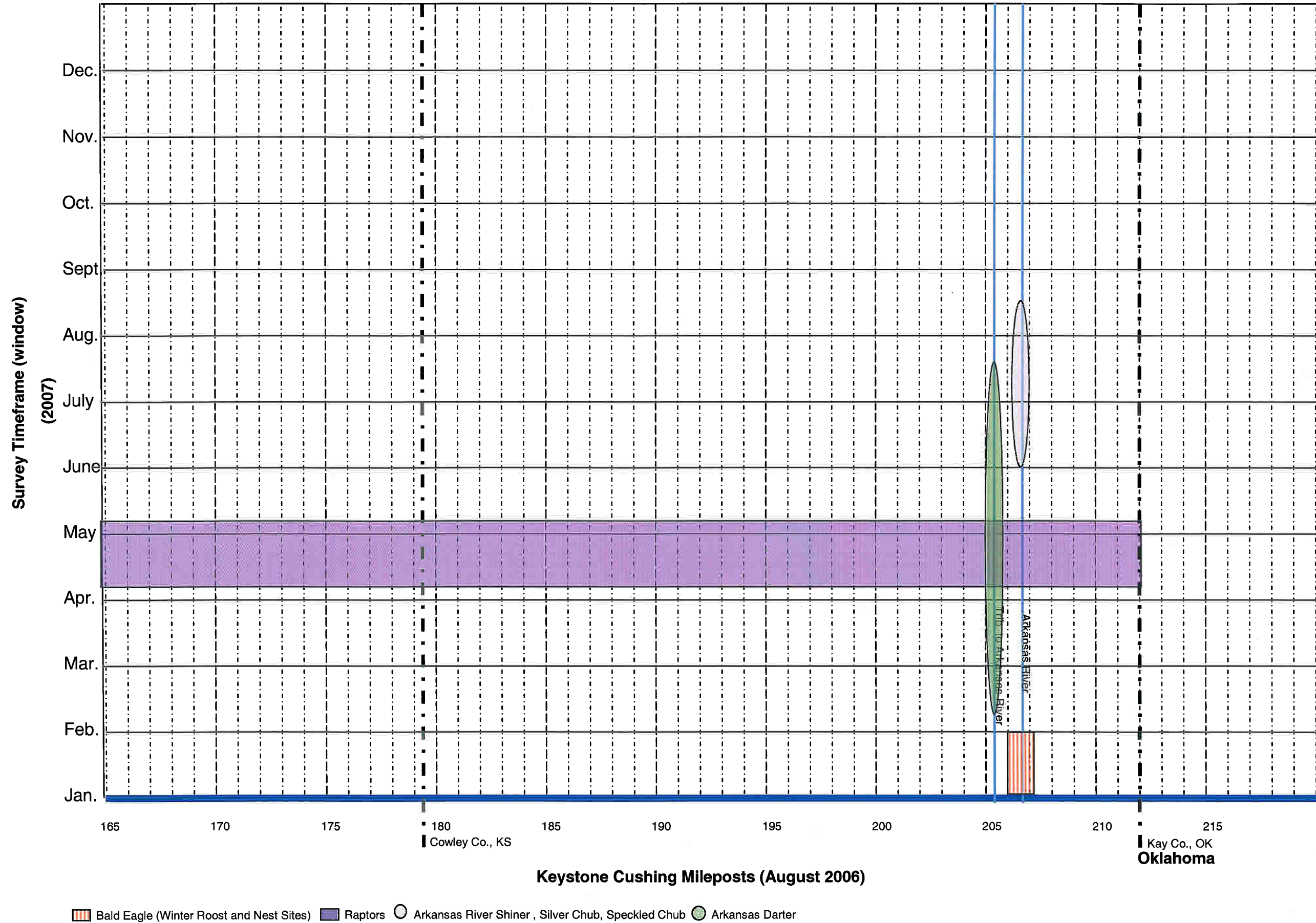
Keystone Cushing Mileposts (August 2006)

- Bald Eagle (Winter Roost and Nest Sites)
- Raptors
- Neosho Madtom
- Fawnsfoot & Creeper Freshwater Mussels

Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project – Cushing Extension

Biological Survey March-Chart 2007



Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.