

PART A - APPENDIX B: DISTRIBUTION OF FISH RADIO-TAGGED IN  
THE MIDDLE AND LOWER SUSITNA RIVER, 2013

**Susitna-Watana Hydroelectric Project  
(FERC No. 14241)**

**Study of Fish Distribution and Abundance in the  
Middle and Lower Susitna River Study (9.6)**

**Part A - Appendix B  
Distribution of Fish Radio-Tagged in the Middle and  
Lower Susitna River, 2013**

**Initial Study Report**

Prepared for

Alaska Energy Authority



**SUSITNA-WATANA HYDRO**

*Clean, reliable energy for the next 100 years.*

Prepared by

LGL Alaska Research Associates, Inc.]

June 2014

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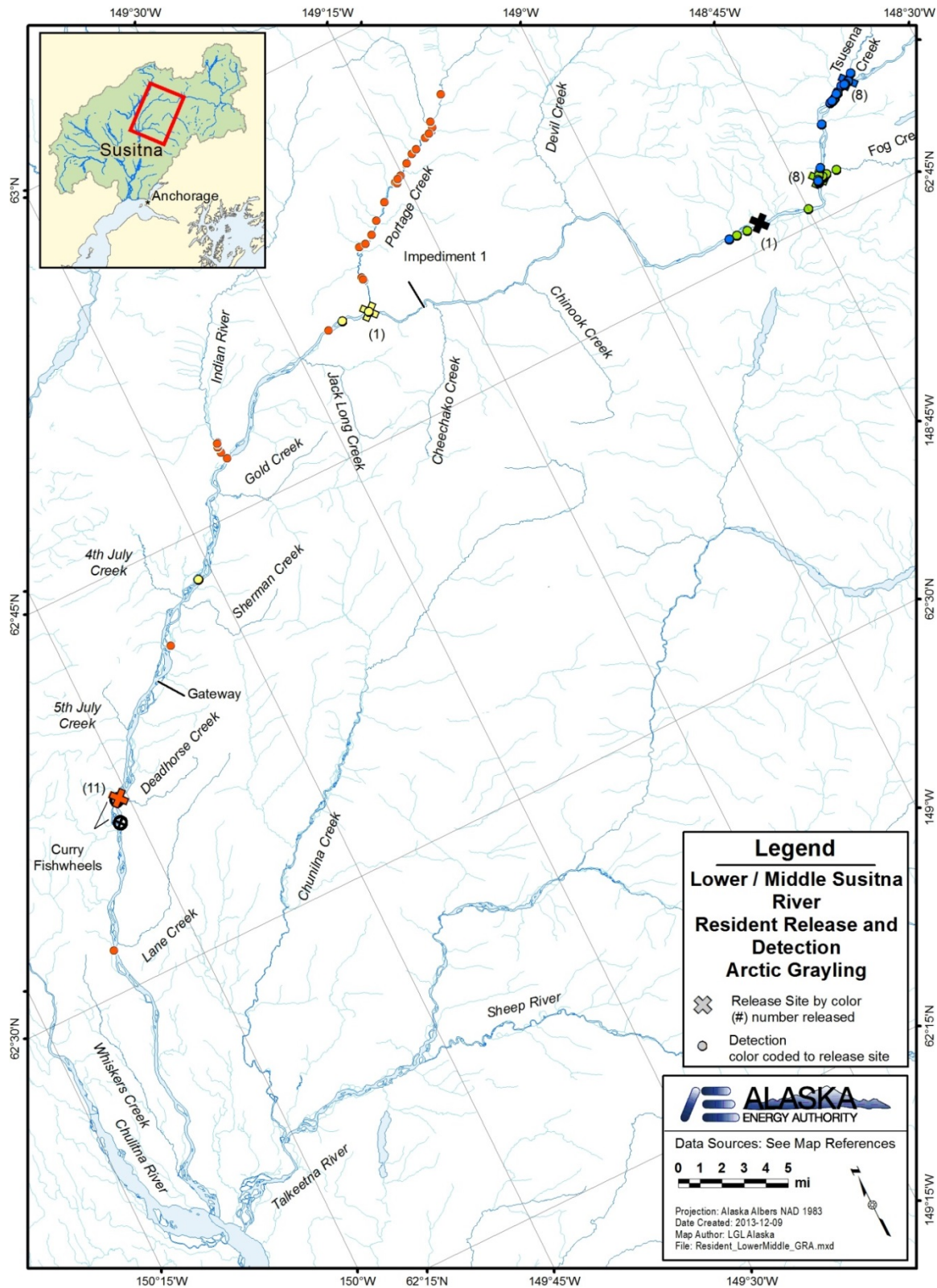


Figure B1. Live detections of radio-tagged Arctic Grayling released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B1).

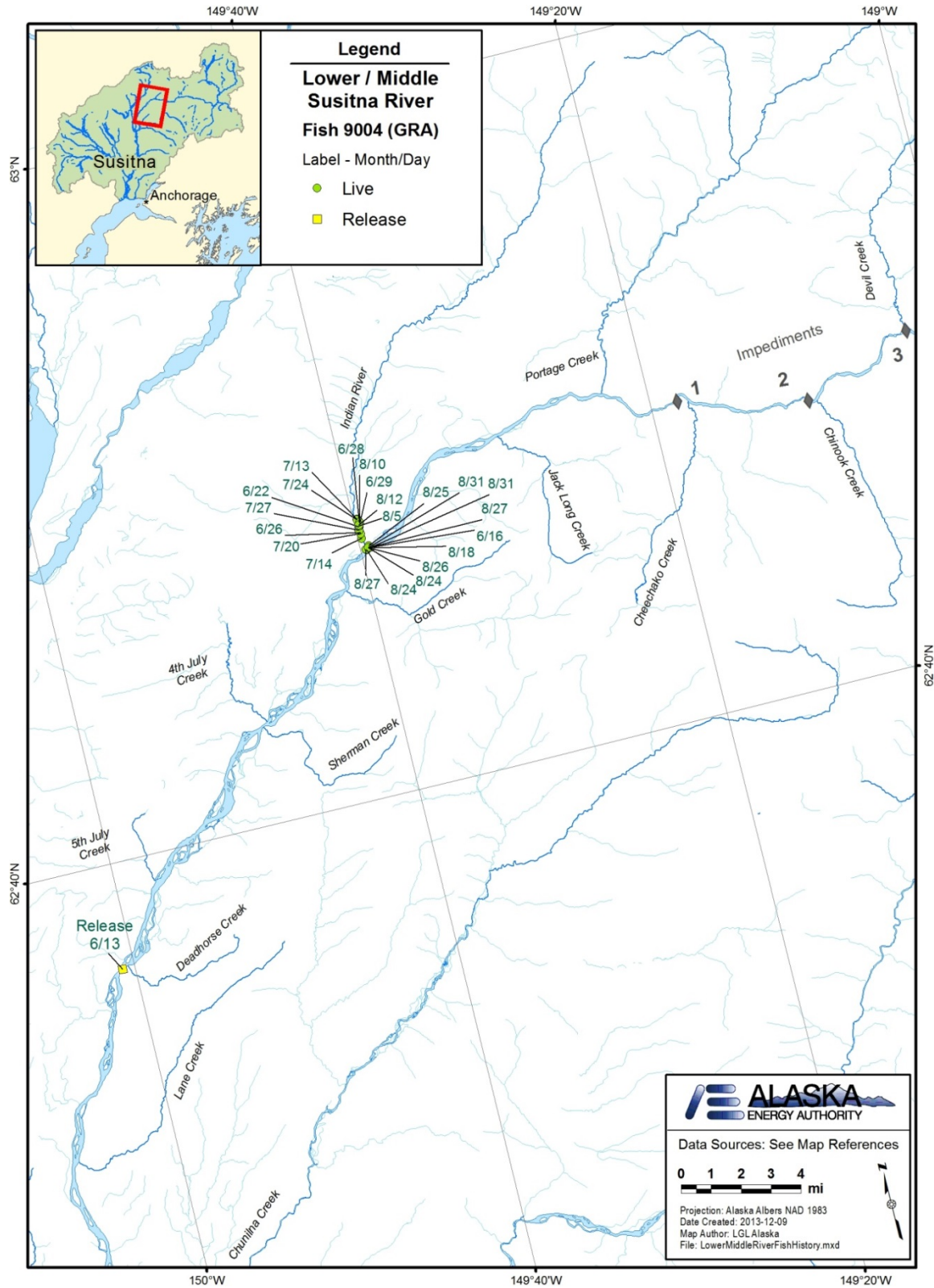


Figure B2. Live detections of radio-tagged Arctic Grayling #9004 released in the Middle Susitna River on 13 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.

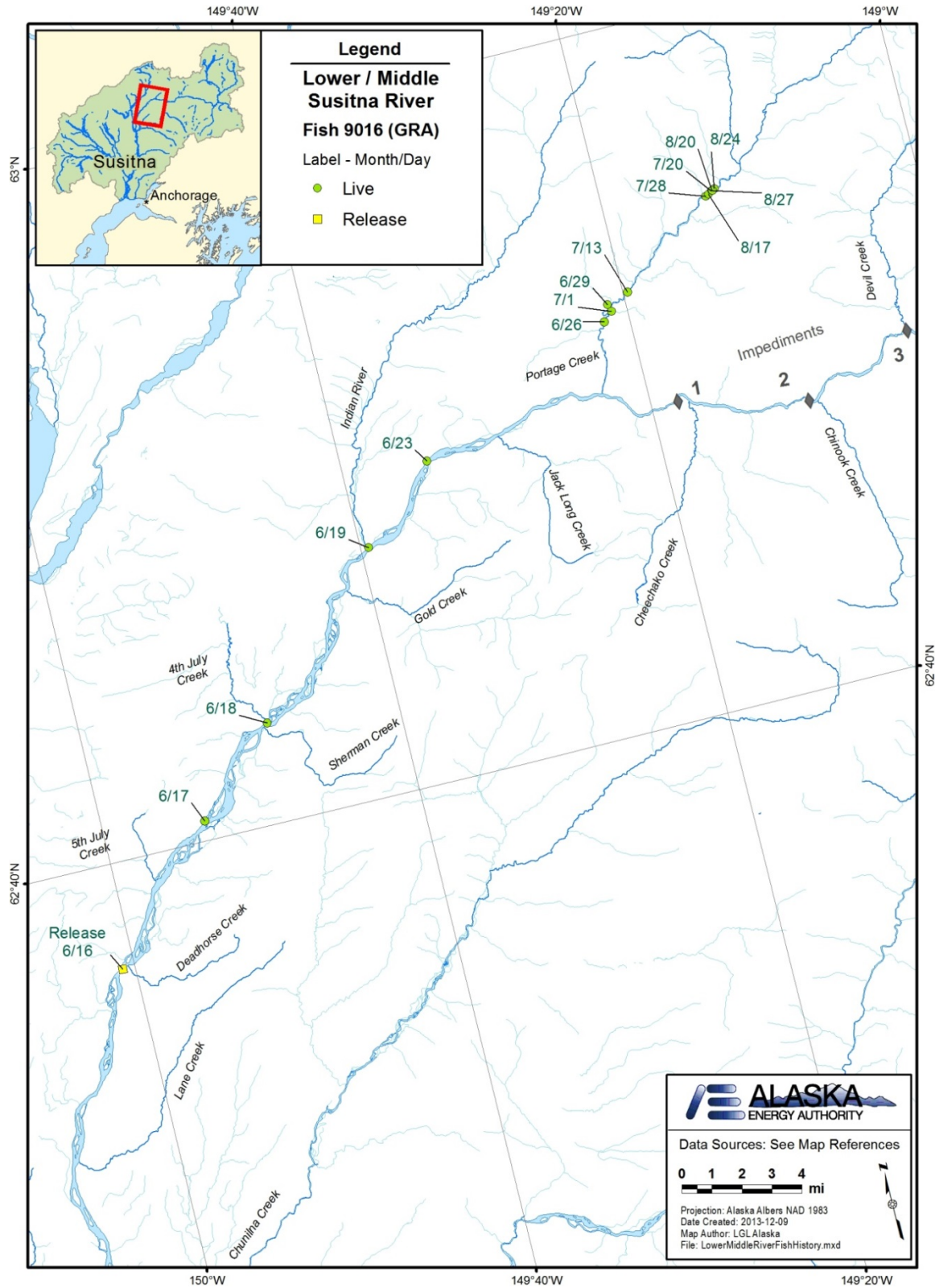
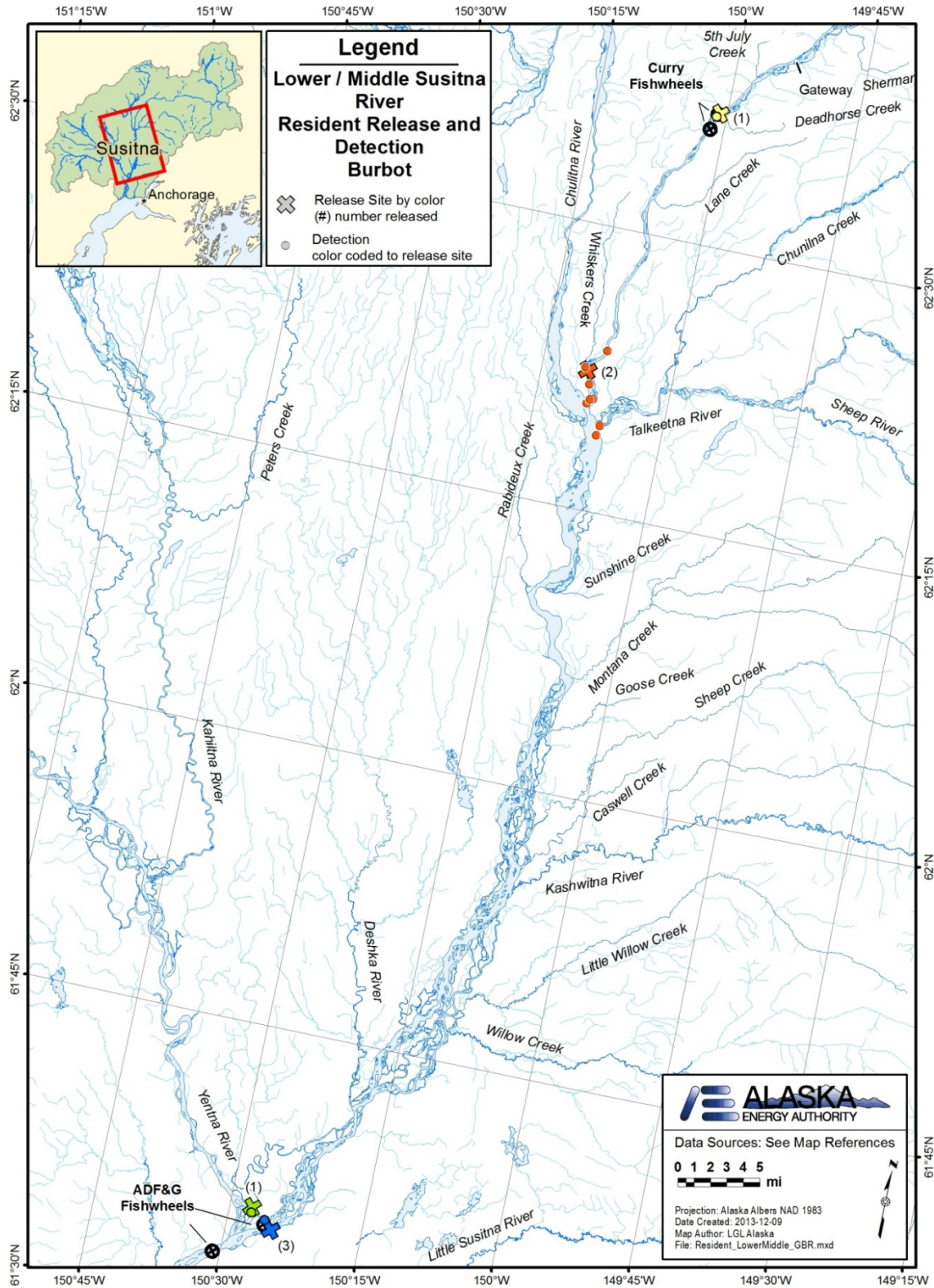
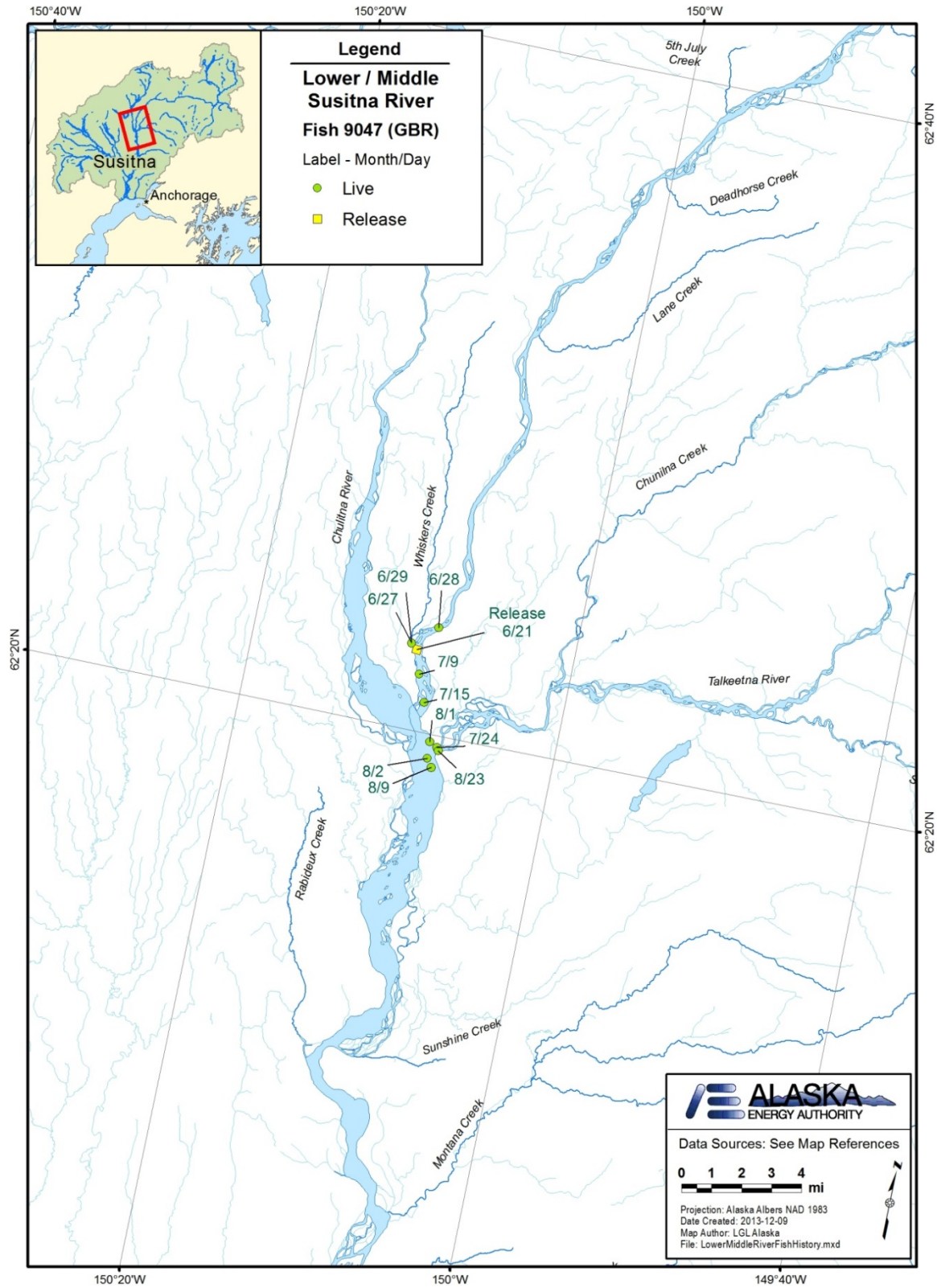


Figure B3. Live detections of radio-tagged Arctic Grayling #9016 released in the Middle Susitna River on 16 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.



**Figure B4. Live detections of radio-tagged Burbot released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B2).**





**Figure B5. Live detections of radio-tagged Burbot #9047 released in the Middle Susitna River on 21 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**

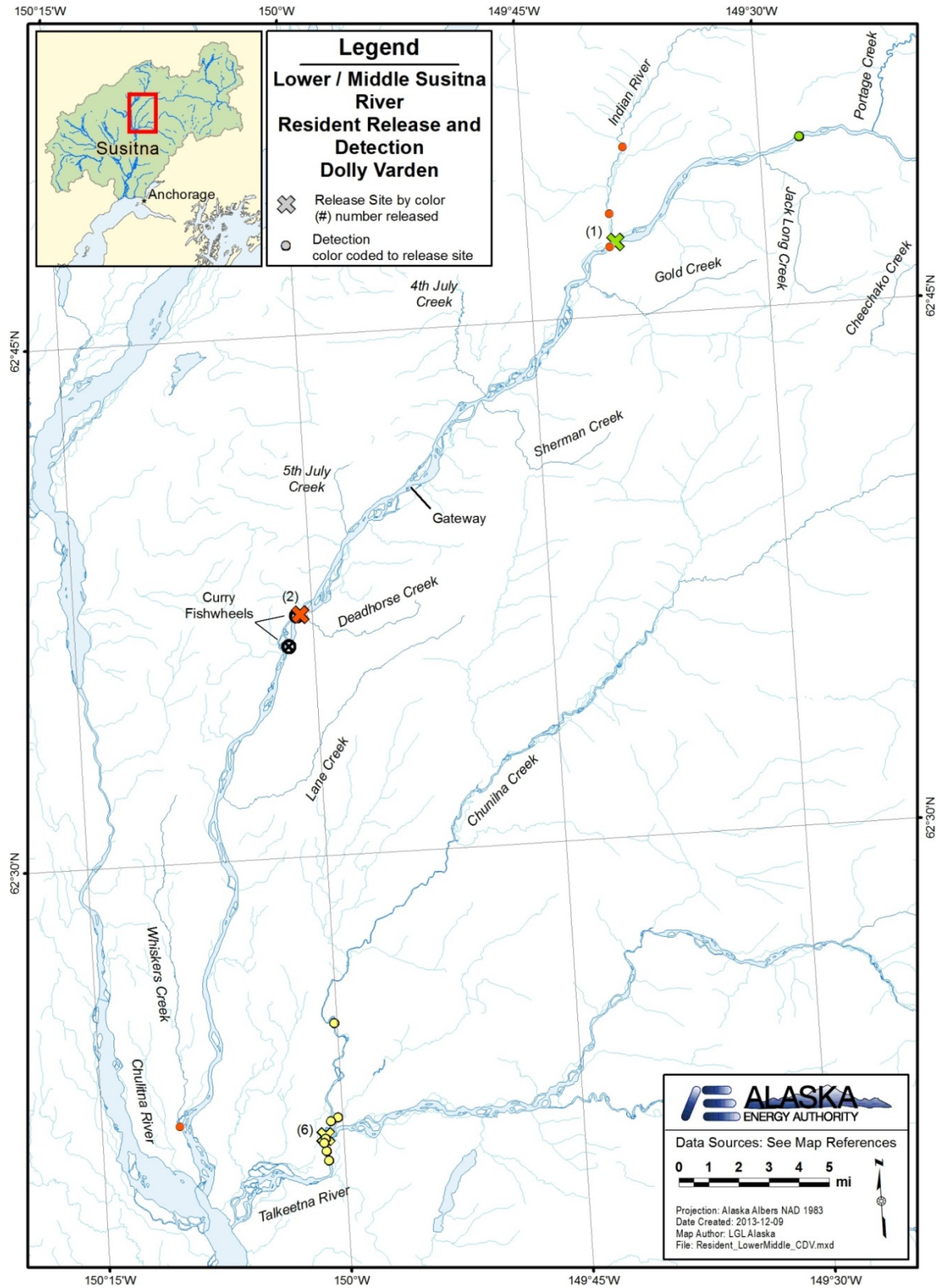
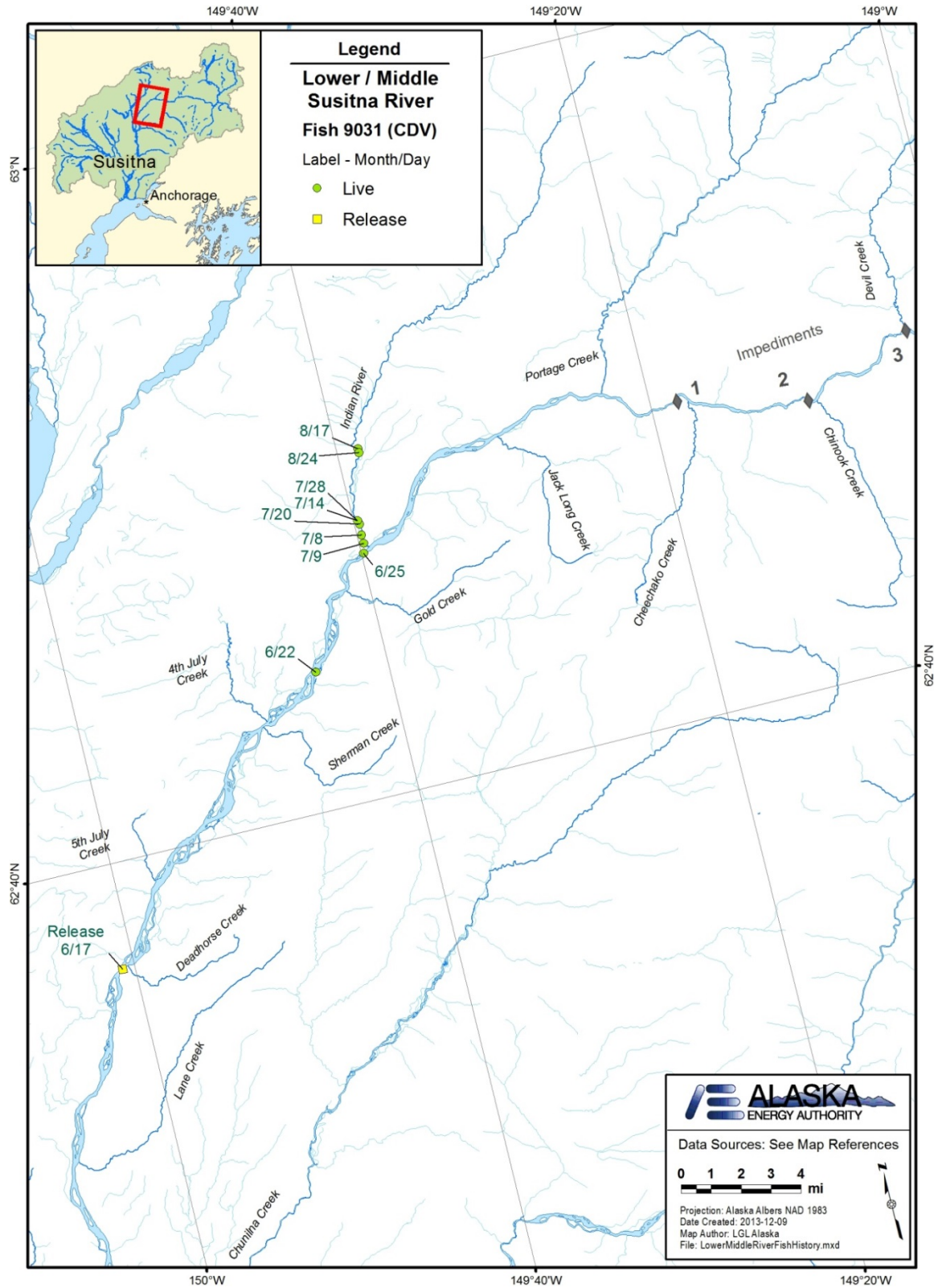
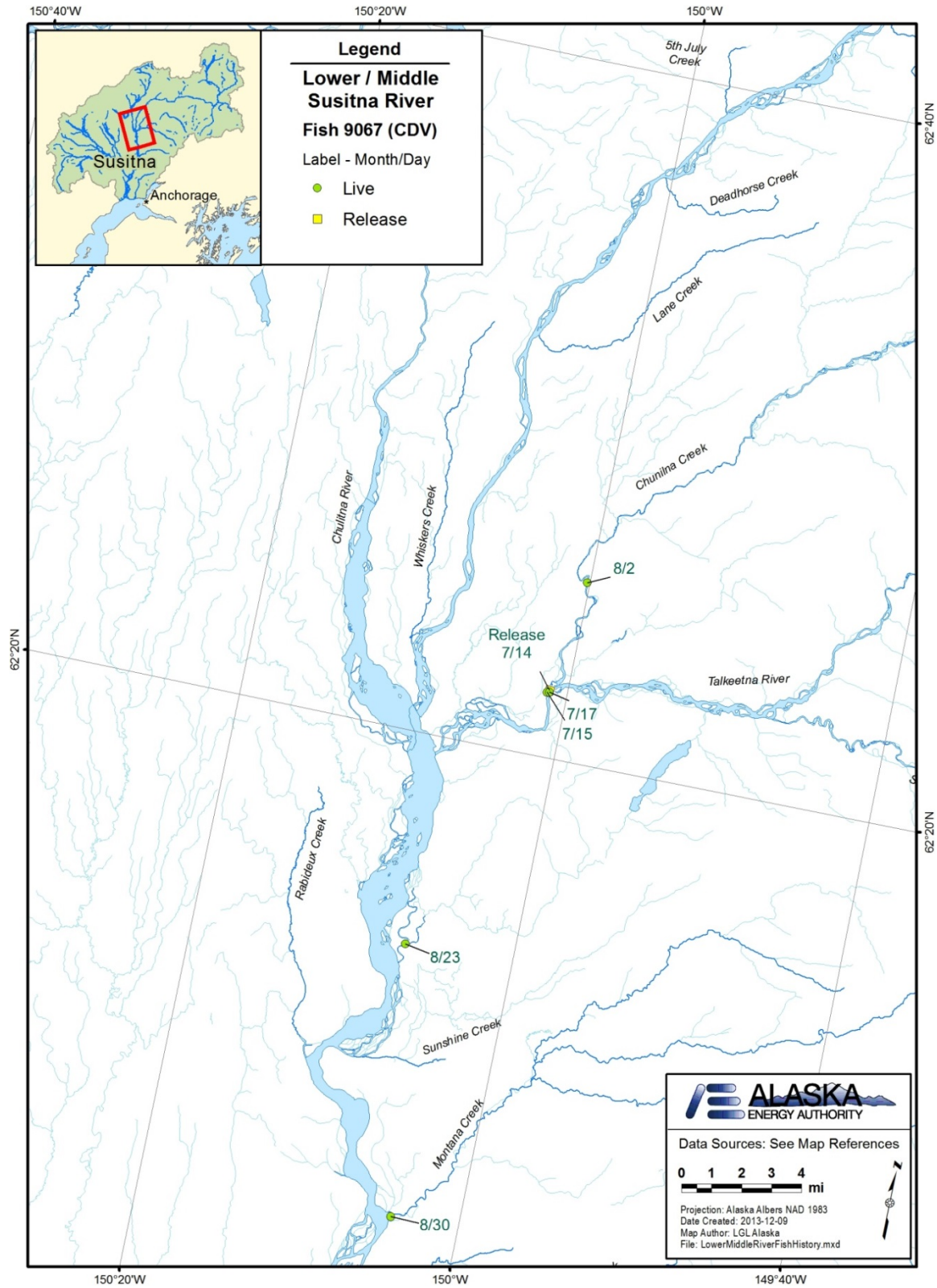


Figure B6. Live detections of radio-tagged Dolly Varden released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B3).



**Figure B7. Live detections of radio-tagged Dolly Varden #9031 released in the Middle Susitna River on 17 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**



**Figure B8. Live detections of radio-tagged Dolly Varden #9067 released in the Talkeetna River on 14 July, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**

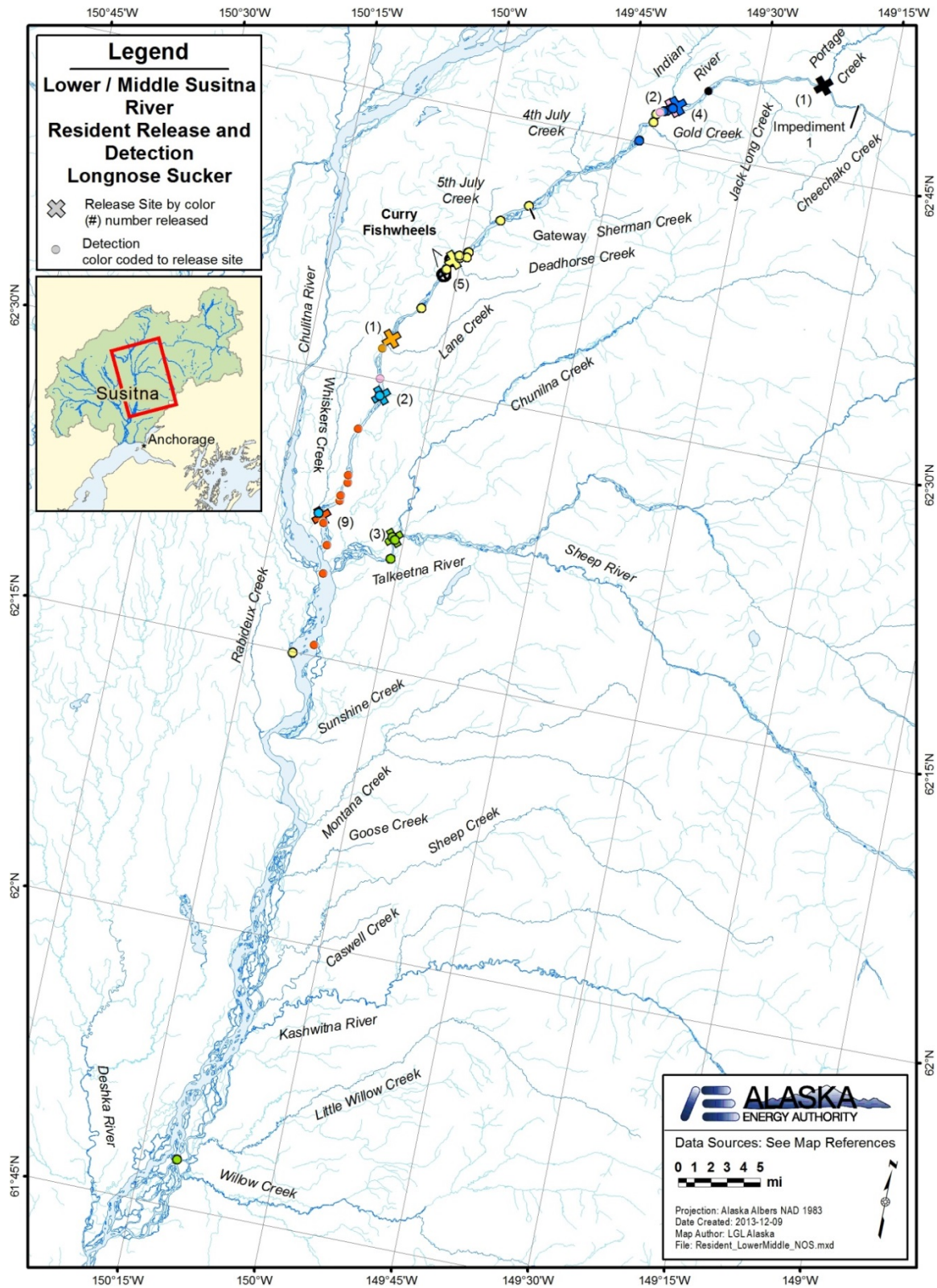
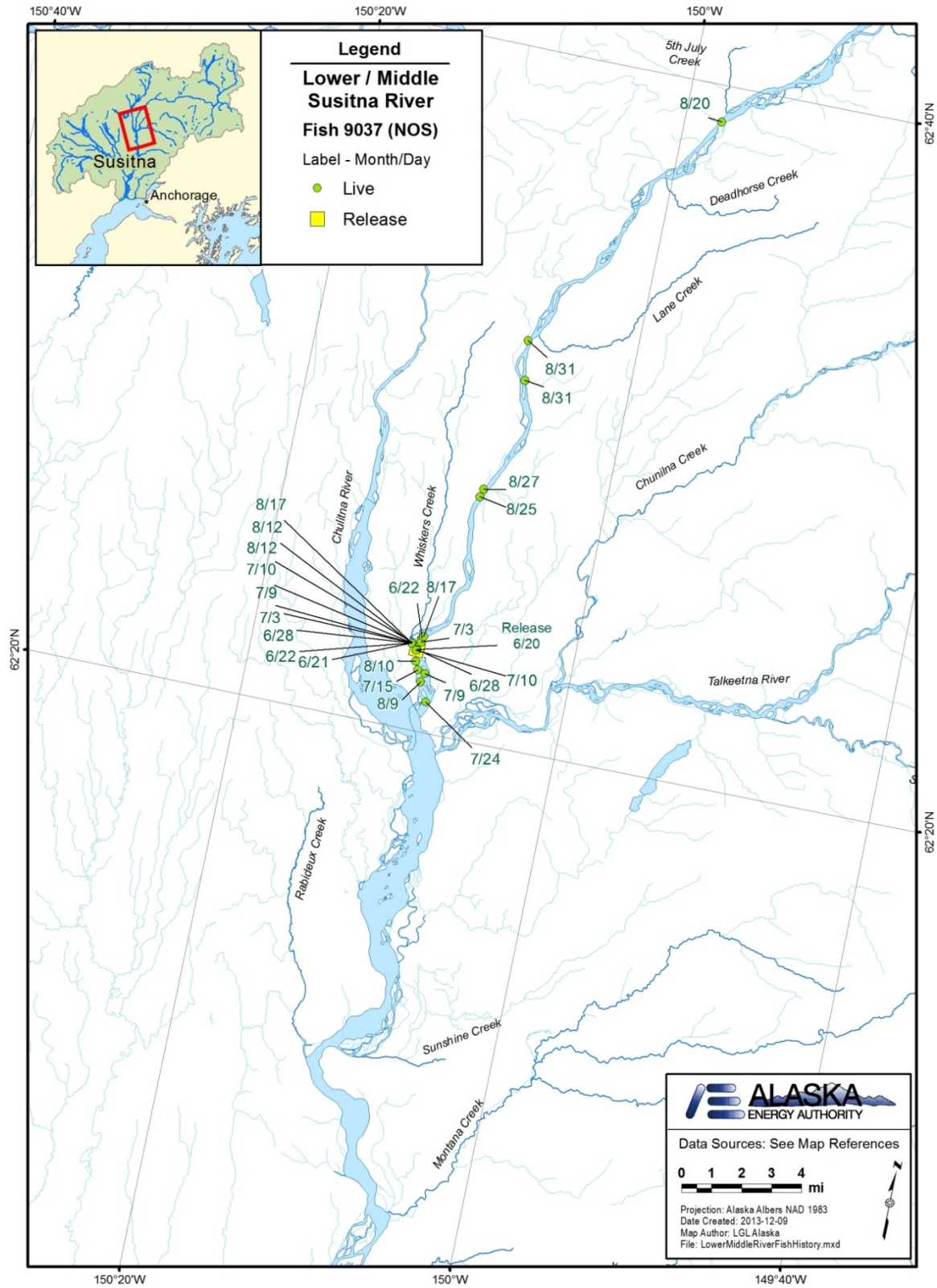
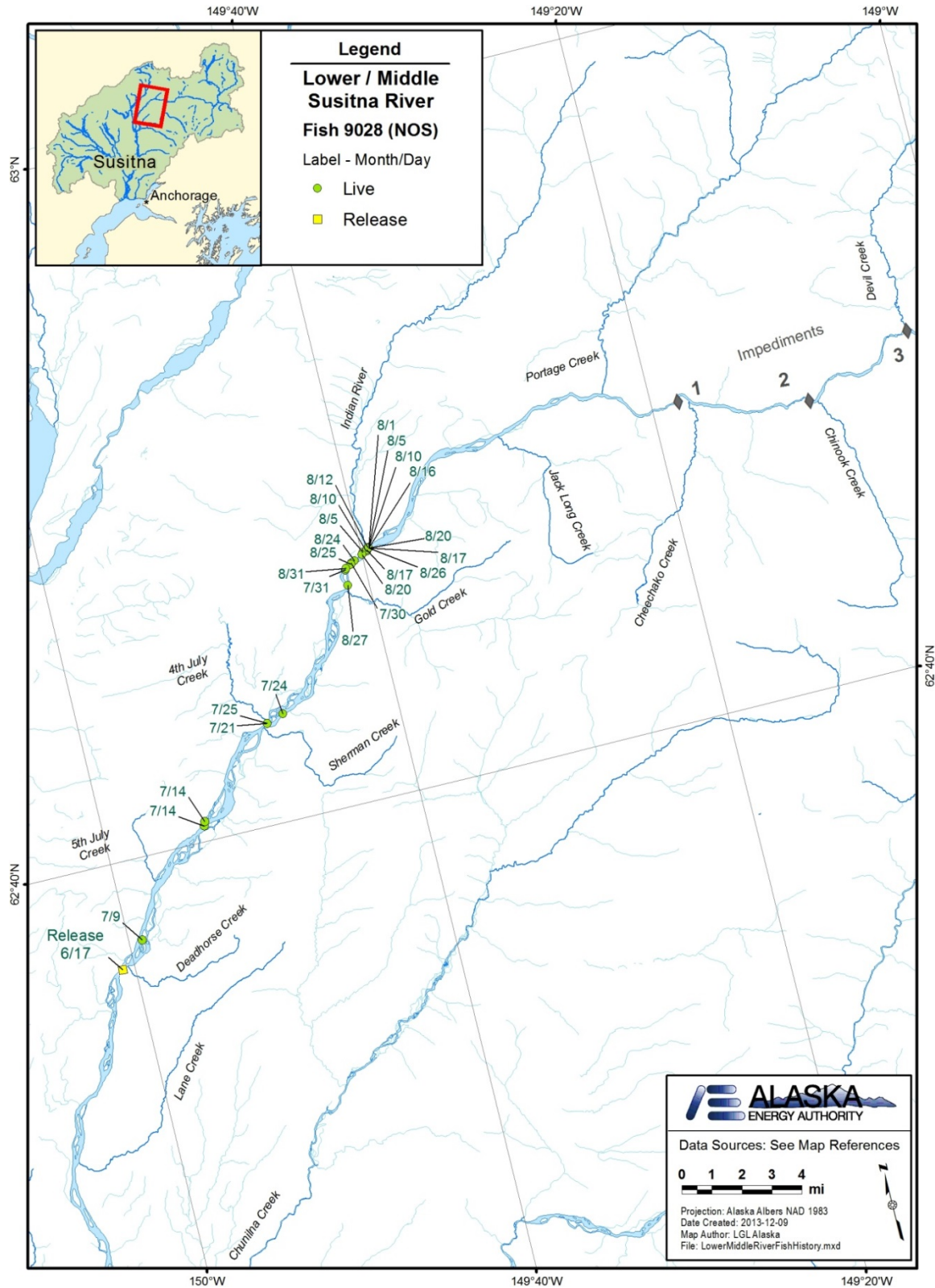


Figure B9. Live detections of radio-tagged Longnose Sucker released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B4).



**Figure B10. Live detections of radio-tagged Longnose Sucker #9037 released in the Middle Susitna River on 20 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**



**Figure B11. Live detections of radio-tagged Longnose Sucker #9028 released in the Middle Susitna River on 17 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**

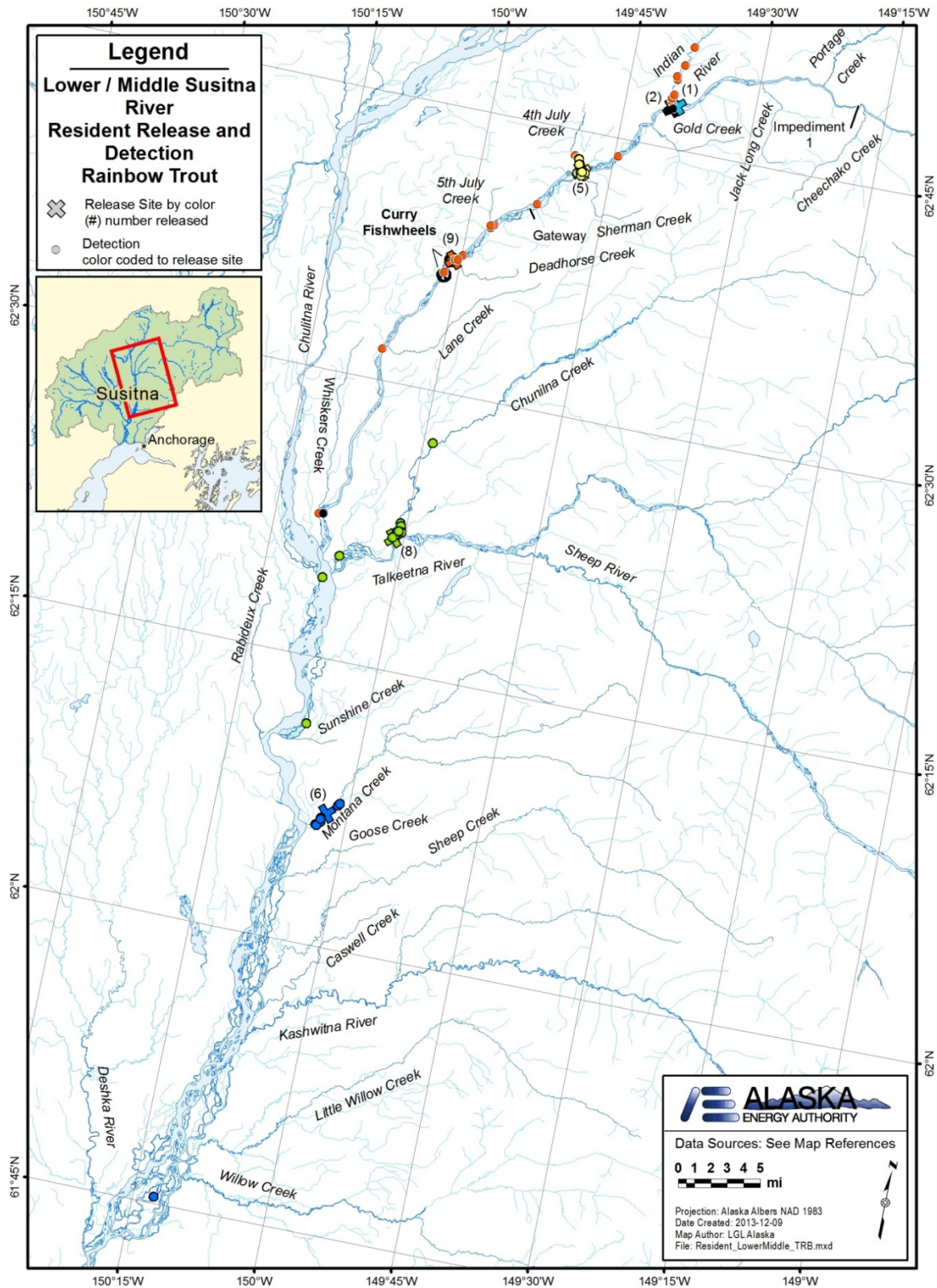
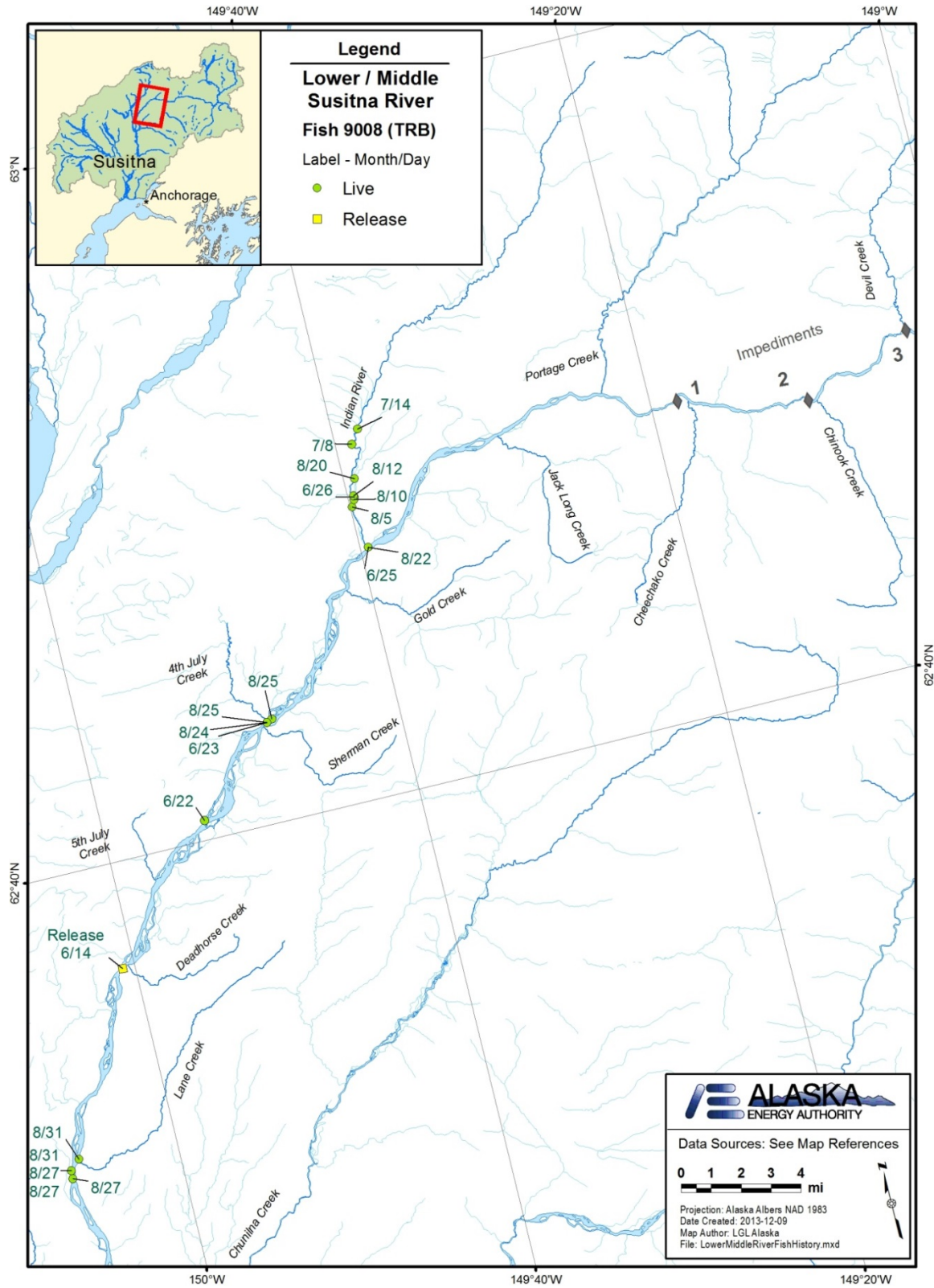
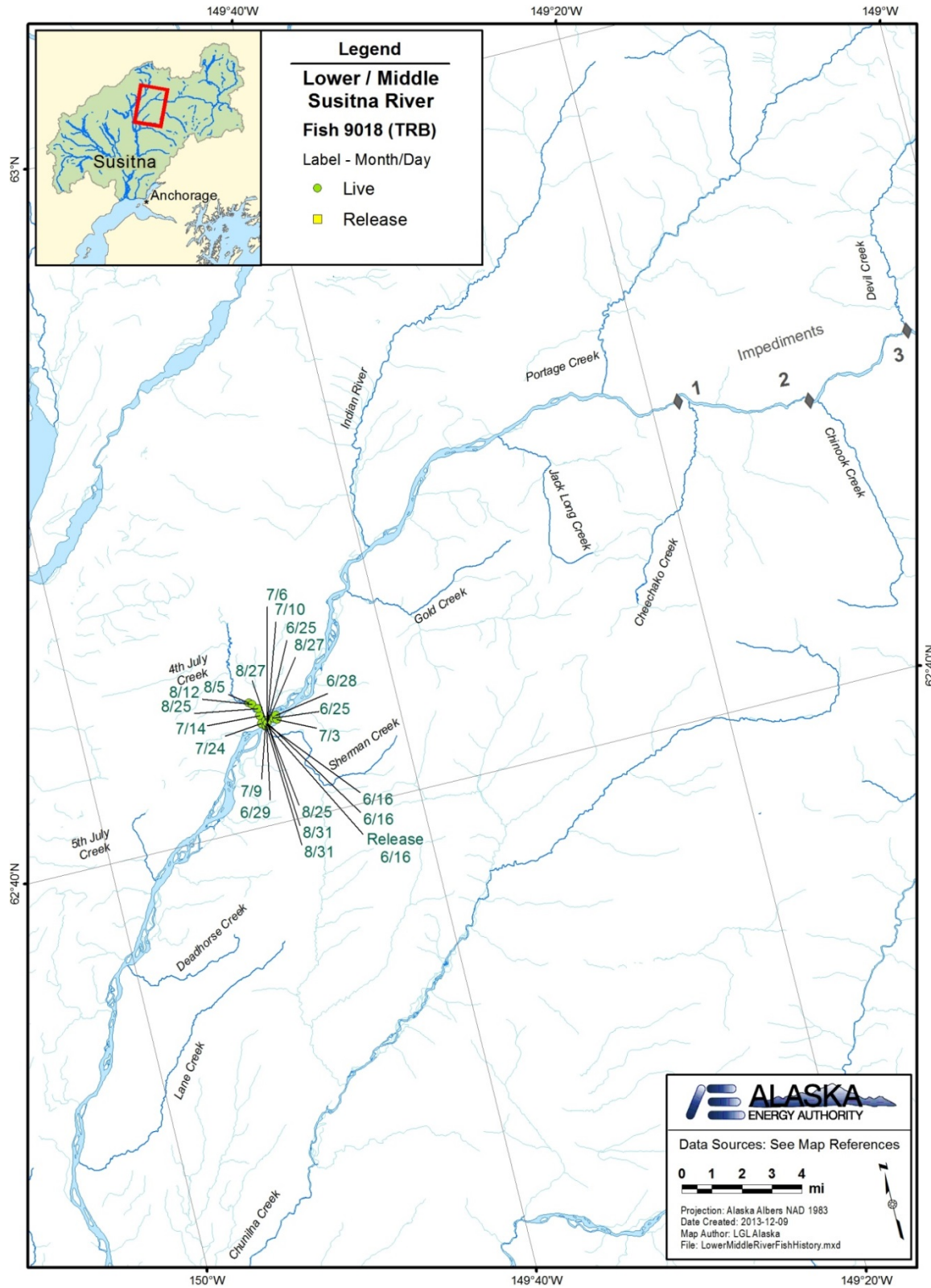


Figure B12. Live detections of radio-tagged Rainbow Trout released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B6).

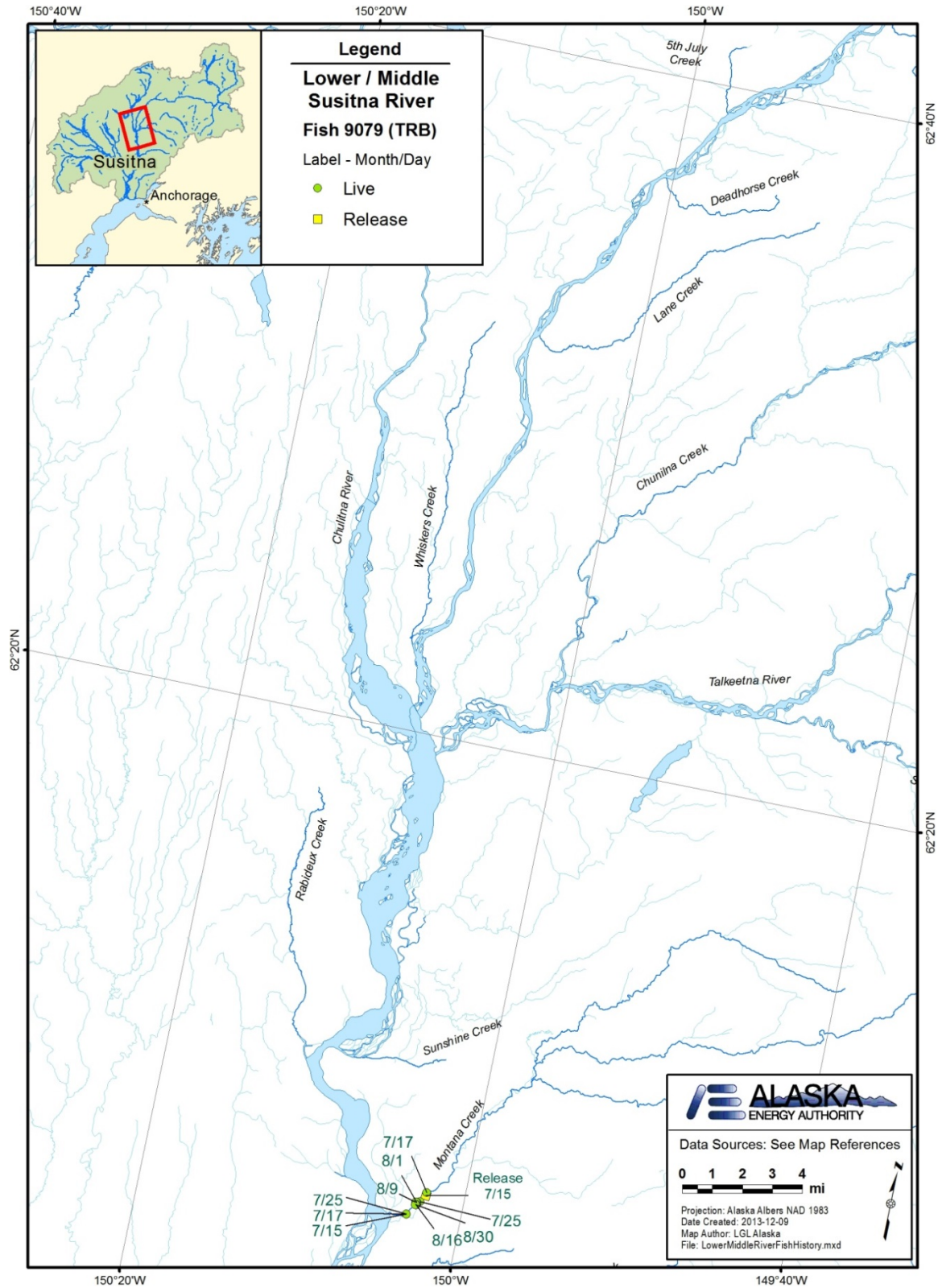




**Figure B13. Live detections of radio-tagged Rainbow Trout #9008 released in the Middle Susitna River on 14 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**



**Figure B14. Live detections of radio-tagged Rainbow Trout #9018 released in the Middle Susitna River on 16 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**



**Figure B15. Live detections of radio-tagged Rainbow Trout #9079 released in the Montana Creek on 7 July, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**

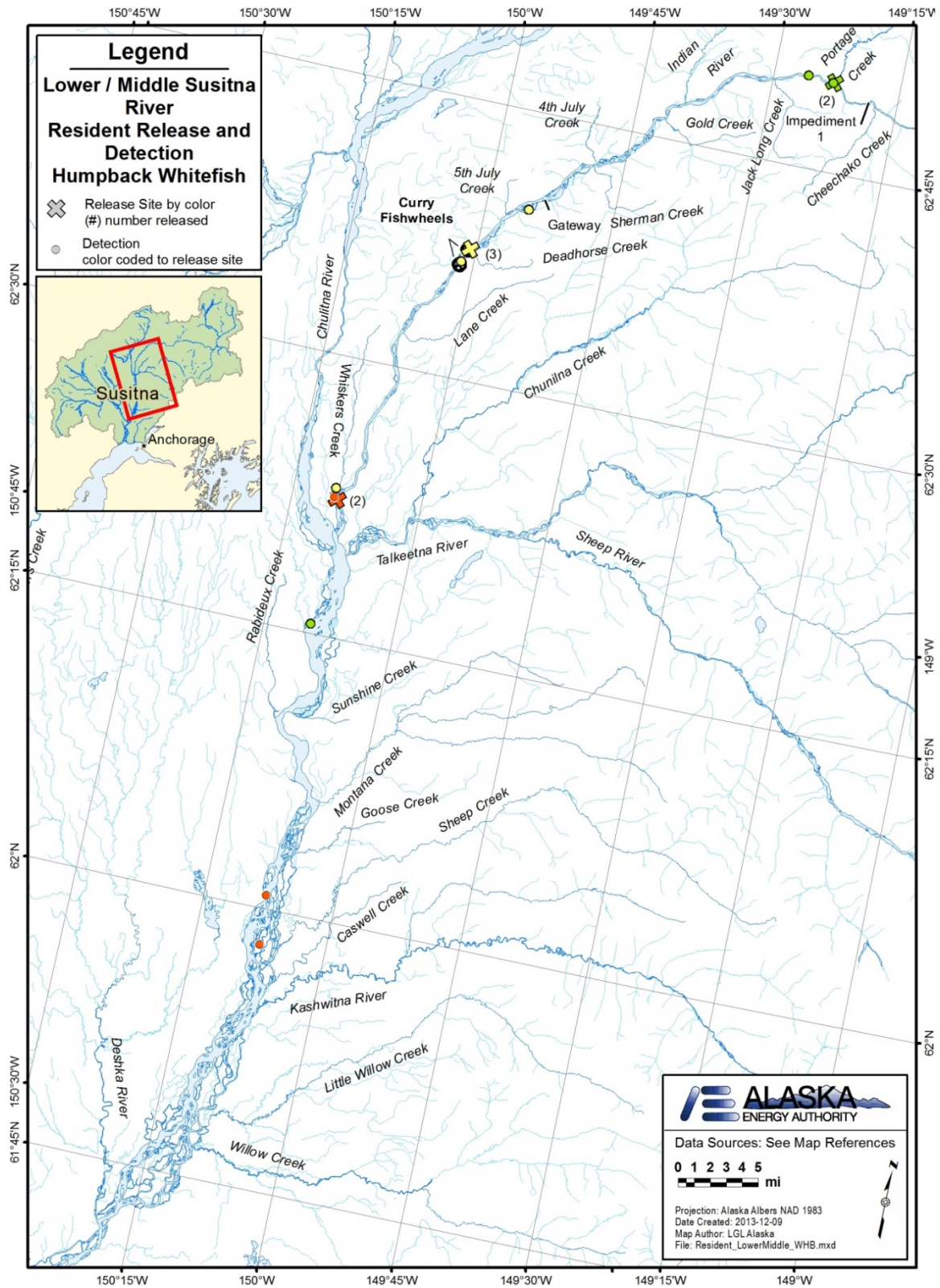


Figure B16. Live detections of radio-tagged Humpback Whitefish released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B7).

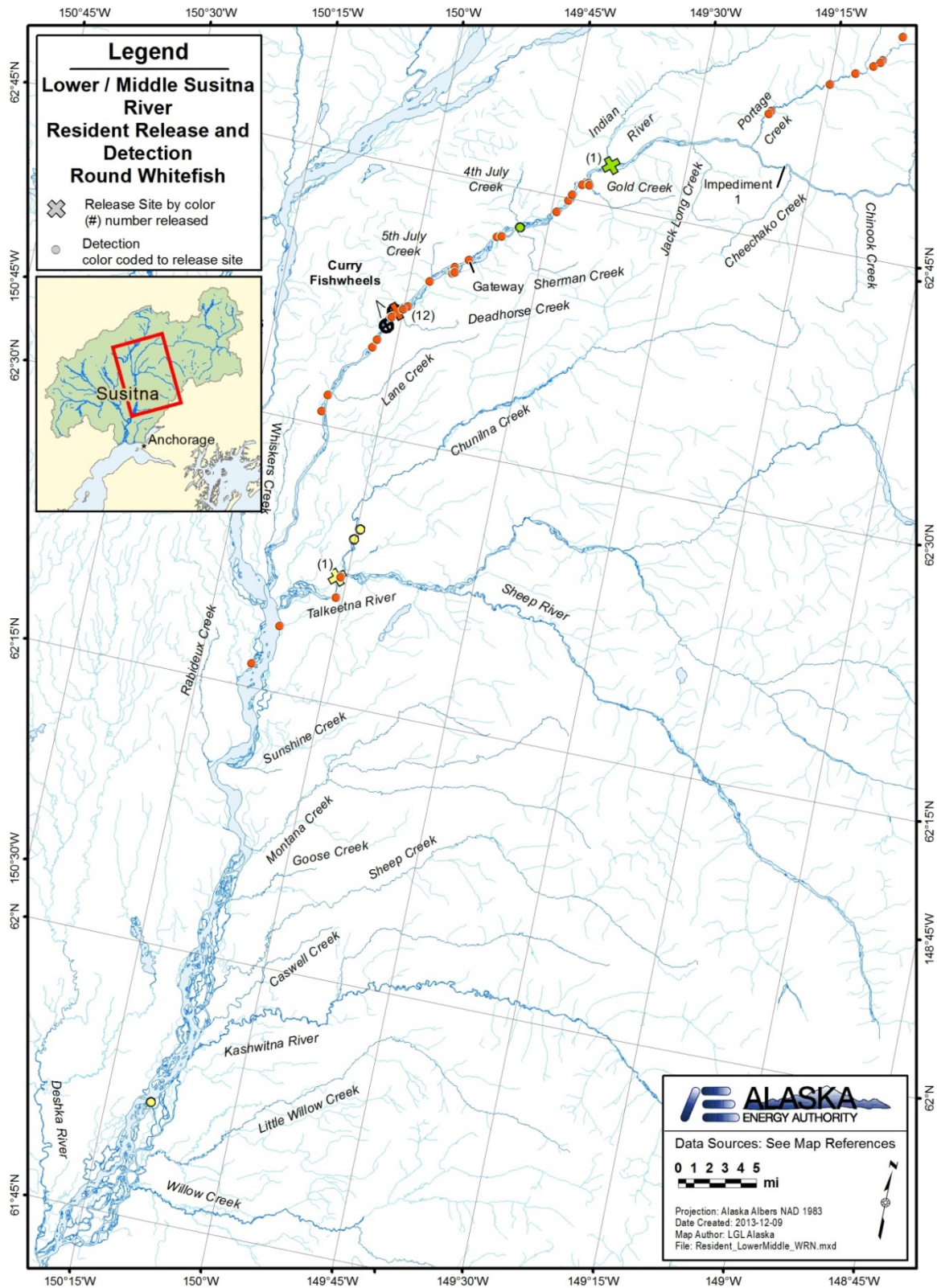


Figure B17. Live detections of radio-tagged Round Whitefish released in the Middle Susitna River, 1 June – 31 August, 2013. Color-coded X's indicate release sites and respectively colored individual dots indicate last-known locations of each unique fish for each two week analysis period (see Table B8).

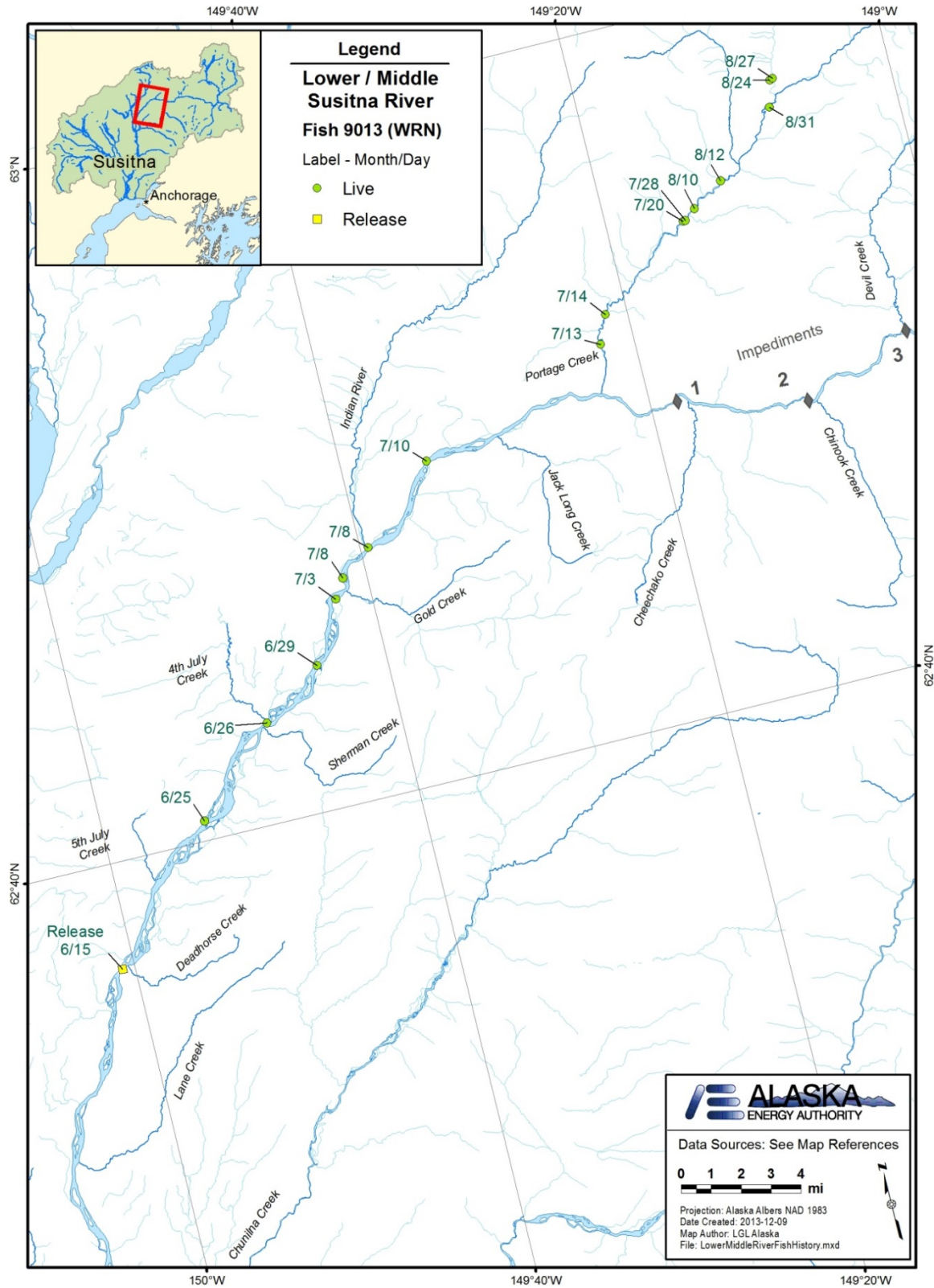
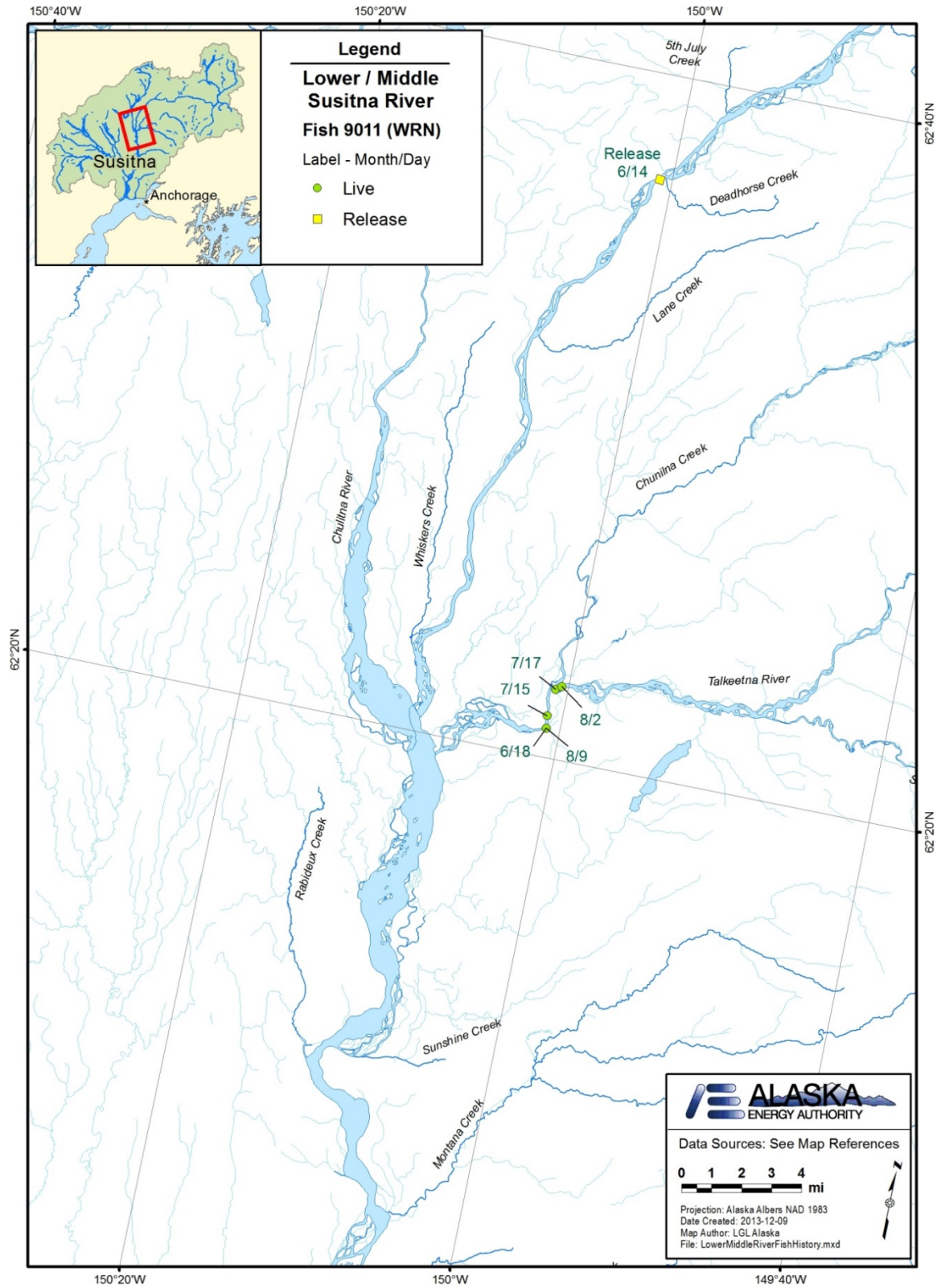


Figure B18. Live detections of radio-tagged Round Whitefish #9013 released in the Middle Susitna River on 15 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.



**Figure B19. Live detections of radio-tagged Round Whitefish #9011 released in the Middle Susitna River on 14 June, 2013. The yellow square indicates the release site and the individual dots indicate the location on each date of detection.**

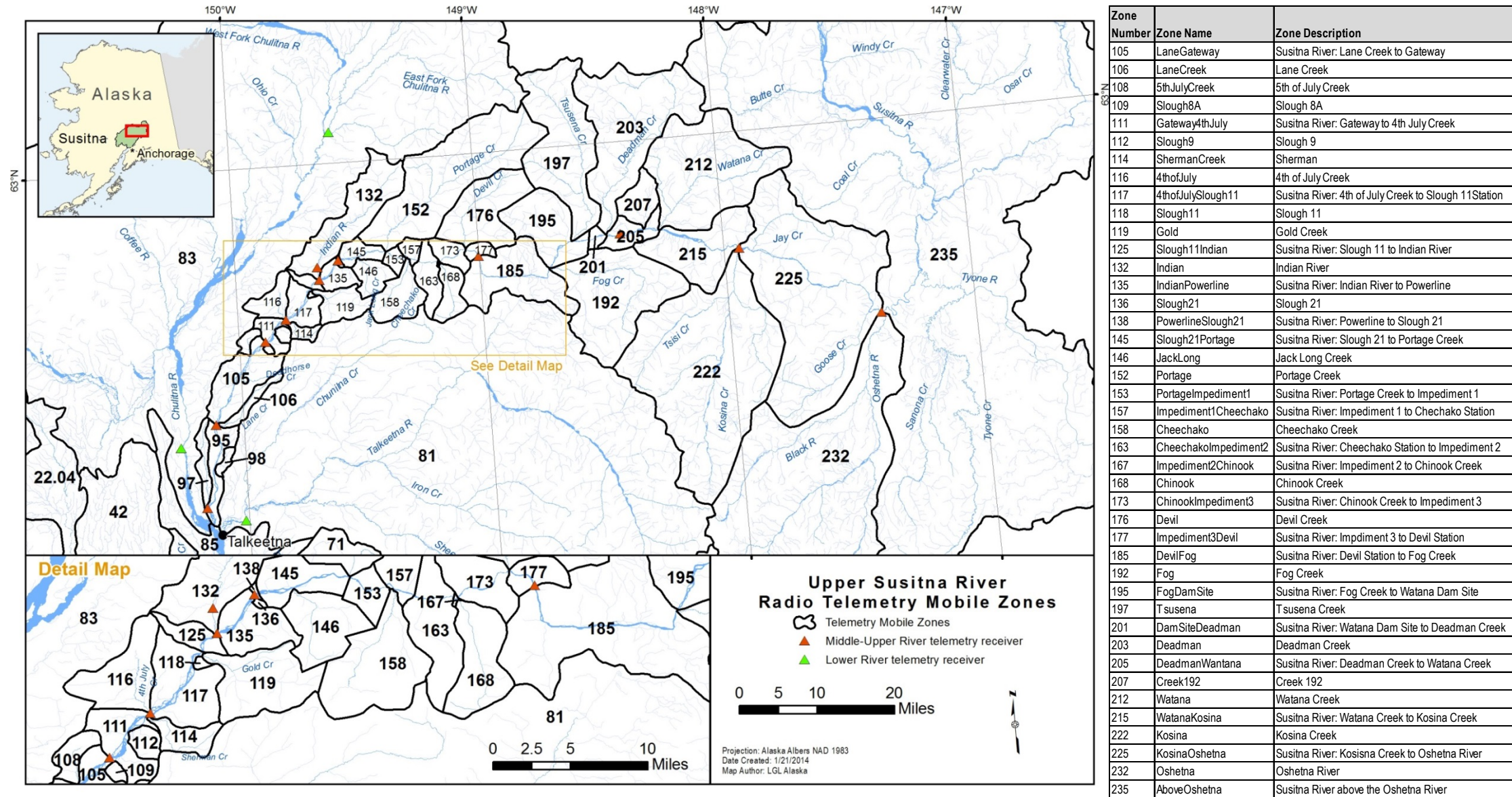


Figure B20. Radio telemetry survey zones in the Middle and Upper Susitna River, 2013.



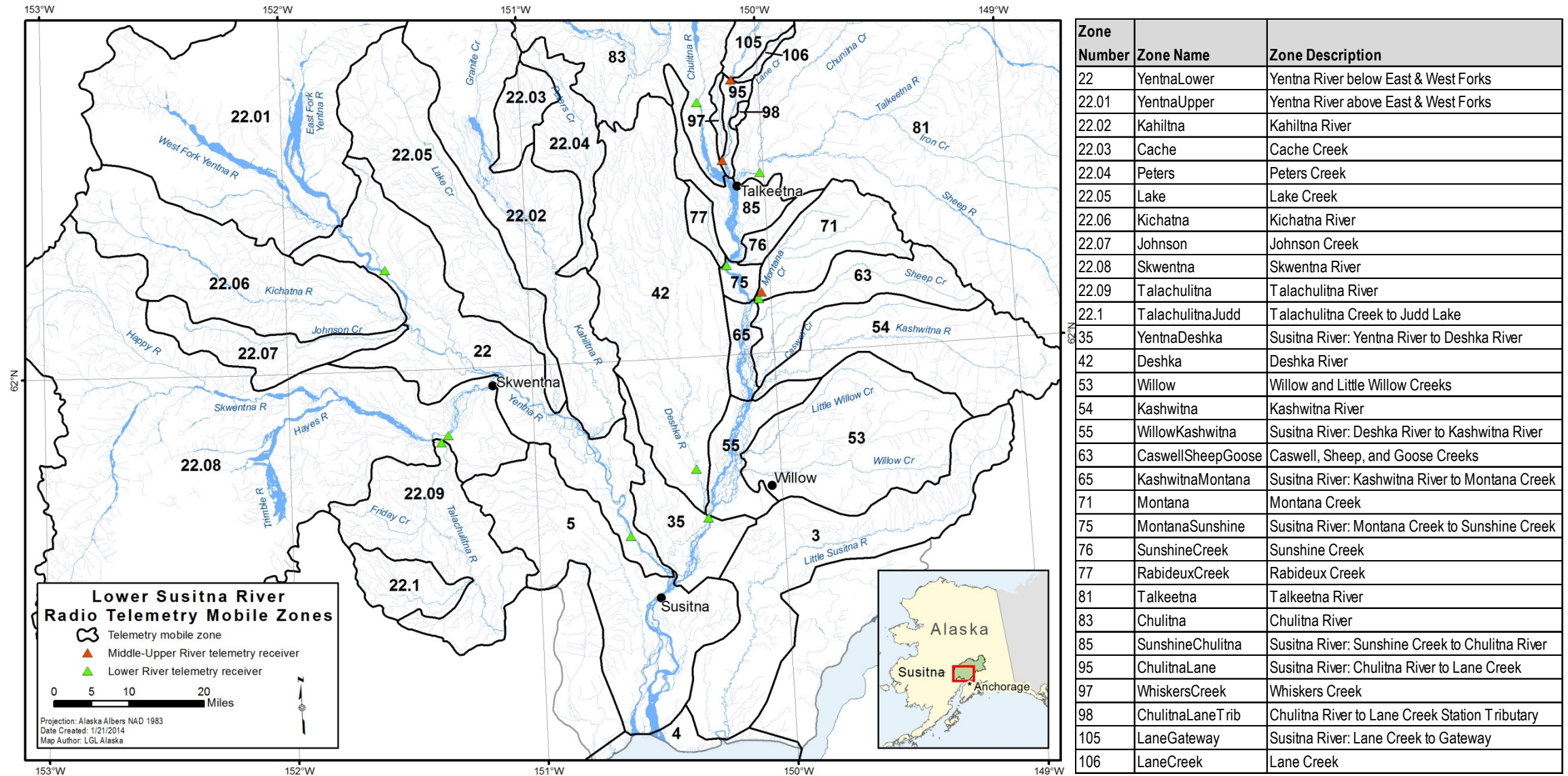


Figure B21. Radio telemetry survey zones in the Lower Susitna River, 2013.

**Table B1. Arctic grayling two-week post tagging location status by tagging group.**

Arctic grayling		RIs before 7/1						RIs 7/15 - 7/31				RIs 7/15 - 7/31				RIs 7/15 - 7/31				RIs 8/15 - 8/30	
Zone Name	Zone Number	RIs	1 Jul	15 Jul	1 Aug	15 Aug	30 Aug	RIs	1 Aug	15 Aug	30 Aug	RIs	1 Aug	15 Aug	30 Aug	RIs	1 Aug	15 Aug	30 Aug	RIs	30 Aug
<i>Proposed Watana Dam Site PRM 187.1</i>																					
MOB - Tsusena Creek	197														8	3	1				
MOB - Fog - Dam Site	195													2		5	5	4			
MOB - Fog Creek	192											3	5	1							
MOB - Devil Stn - Fog	185											8	5	3	5			1	1	1	1
<i>Upper Extent Devils Canyon PRM 166.1</i>																					
Devils Island	180																				
MOB - Impediment3 - Devil Stn	177																				
MOB - Devils Creek	176																				
MOB - Chinook - Impediment3	173																				
MOB - Chinook Creek	168																				
MOB - Impediment2 - Chinook	167																				
MOB - Cheechako - Impediment2	163																				
MOB - Cheechako Creek	158																				
MOB - Impediment1 - Cheechako	157																				
<i>Lower Extent Devils Canyon PRM 153.9</i>																					
MOB - Portage - Impediment1	153																				
MOB - Portage trib	152		7	6	6	5	3														
MOB - Jack Long Creek	146																				
MOB - abv Powerline - Portage	145			1				1	1	1											
MOB - above Powerline	138																				
Powerline	137																				
MOB - Slough 21	136																				
MOB - Indian - Slough 21	135																				
MOB - Indian trib	132		1	1	1	1															
Indian River trib	131																				
Indian River	130		2	1			1														
MOB - Slough11 - Indian	125																				
MOB - Gold Creek	119																				
MOB - Slough 11	118																				
MOB - 4th of July - Slough 11	117									1											
MOB - 4th of July Creek	116																				
Fourth of July	115																				
MOB - Sherman Creek	114																				
MOB - Slough 9	112						1														
MOB - Gateway - 4th of July	111																				
Gateway	110																				
MOB - Slough 8A	109																				
MOB - 5th of July Creek	108																				
MOB - Lane Creek	106																				
MOB - Lane - Gateway	105	11																			
Lane Creek	100		1	1	1																
MOB - Trib off zone 95	98																				
MOB - Whiskers Creek	97																				
Whiskers	96																				
MOB - Talkeetna - Lane	95																				
<i>Lower River</i>																					
MOB - Sunshine - Talkeetna	85																				
ADFG - Middle Chulitna	84																				
MOB - Chulitna River	83																				
ADFG Chulitna	82																				
MOB - Talkeetna River	81																				
ADFG Talkeetna	80																				
Total Tags Live		11	11	10	8	6	5	1	1	1	1	8	8	8	8	8	8	7	5	1	1
Mort tags *		0	0	1	3	5	6	0	0	0	0	0	0	0	0	0	1	3	0	0	0

\* current location of mort tags not shown in table

Table B2. Burbot two-week post tagging location status by tagging group.

Burbot		RIs before 7/1						RIs 8/1 - 8/14			RIs 8/15 - 8/30		RIs 8/15 - 8/30	
Zone Name	Zone Number	RIs	1 Jul	15 Jul	1 Aug	15 Aug	30 Aug	RIs	15 Aug	30 Aug	RIs	30 Aug	RIs	30 Aug
<i>Devils Canyon PRM 153.9-166.1</i>														
MOB - Lane - Gateway	105							1	1					
Lane Creek	100													
MOB - Trib off zone 95	98													
MOB - Whiskers Creek	97													
MOB - Talkeetna - Lane	96	2	1	1	1		1							
Whiskers	95		1	1										
<i>Lower River</i>														
MOB - Sunshine - Talkeetna	85				1	2								
ADFG - Middle Chulitna	84													
MOB - Chulitna River	83													
ADFG Chulitna	82													
MOB - Talkeetna River	81						1							
ADFG Talkeetna	80													
ADFG Sunshine	78													
MOB - Rabideux Creek	77													
MOB - Sunshine Creek	76													
MOB - Montana - Sunshine	75													
MOB - Montana Creek	71													
MOB - Kashwitna - Montana	70													
Montana	65													
MOB - Caswell area tribs	63													
MOB - Deshka - Kashwitna	55													
MOB - Kashwitna River	54													
MOB - Willow and Little Willow cr	53													
MOB - Deshka River	42													
ADFG Deshka Weir	41													
ADFG Deshka River	40													
MOB - Yentna - Deshka	35												3	3
ADFG Talachulitna Weir	28													
ADFG Skwentna	27													
ADFG Upper Yentna	26													
ADFG Lake Weir	24													
MOB - Yentna River	22													
ADFG Lower Yentna	20													
ADFG Susitna Station	6													
MOB - Confluence - Yentna	5										1	1		
Total Tags Live		2	2	2	2	2	2	1	1	0	1	1	3	3
Mort tags *		0	0	0	0	0	0	0	0	1	0	0	0	0

\* current location of mort tags not shown in table

Table B3. Dolly Varden two-week post tagging location status by tagging group.

Dolly Varden		RIs before 7/1						RIs 7/1 - 7/14					RIs 8/1 - 8/14			RIs 8/15 - 8/30	
Zone Name	Zone Number	RIs	1 Jul	15 Jul	1 Aug	15 Aug	30 Aug	RIs	15 Jul	1 Aug	15 Aug	30 Aug	RIs	15 Aug	30 Aug	RIs	30 Aug
<i>Devils Canyon PRM 153.9-166.1</i>																	
MOB - abv Powerline - Portage	145																1
MOB - above Powerline	138																
Powerline	137																
MOB - Slough 21	136																
MOB - Indian - Slough 21	135																
MOB - Indian trib	132						1										
Indian River trib	131			1	1	1											
Indian River	130																
MOB - Slough11 - Indian	125		1													1	
MOB - Gold Creek	119																
MOB - Slough 11	118																
MOB - 4th of July - Slough 11	117																
MOB - 4th of July Creek	116																
Fourth of July	115																
MOB - Sherman Creek	114																
MOB - Slough 9	112																
MOB - Gateway - 4th of July	111																
Gateway	110																
MOB - Slough 8A	109																
MOB - 5th of July Creek	108																
MOB - Lane Creek	106																
MOB - Lane - Gateway	105	1											1				
Lane Creek	100																
MOB - Trib off zone 95	98																
MOB - Whiskers Creek	97																
Whiskers	96												1	1			
MOB - Talkeetna - Lane	95																
<i>Lower River</i>																	
MOB - Sunshine - Talkeetna	85										1						
ADFG - Middle Chulitna	84																
MOB - Chulitna River	83																
ADFG Chulitna	82																
MOB - Talkeetna River	81							6	6	6	6	5					
ADFG Talkeetna	80																
Total Tags Live		1	1	1	1	1	1	6	6	6	6	6	1	1	1	1	1
Mort tags *		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

\* current location of mort tags not shown in table



Table B5. Northern pike two-week post tagging location status by tagging group.

Northern Pike		RIs 8/15 - 8/30	
Zone Name	Zone Number	RIs	30 Aug
<i>Lower River</i>			
MOB - Montana - Sunshine	75		
MOB - Montana Creek	71		
Montana	70		
MOB - Kashwitna - Montana	65		
MOB - Caswell area tribs	63		
MOB - Deshka - Kashwitna	55		
MOB - Kashwitna River	54		
MOB - Willow and Little Willow cr	53		
MOB - Deshka River	42		
ADFG Deshka Weir	41		
ADFG Deshka River	40		
MOB - Yentna - Deshka	35	5	4
MOB - Confluence - Yentna	5		
Total Tags Live		5	4
Mort tags *		0	1

\* current location of mort tags not shown in table



**Table B7. Humpback whitefish two-week post tagging location status by tagging group.**

Whitefish, humpback		RIs before 7/1						RIs 7/15 - 7/31				RIs 7/15 - 7/31			
Zone Name	Zone Number	RIs	1 Jul	15 Jul	1 Aug	15 Aug	30 Aug	RIs	1 Aug	15 Aug	30 Aug	RIs	1 Aug	15 Aug	30 Aug
		<i>Devils Canyon PRM 153.9-166.1</i>													
MOB - abv Powerline - Portage	145											2	2		
MOB - above Powerline	138														
Powerline	137														
MOB - Slough 21	136														
MOB - Indian - Slough 21	135														
MOB - Indian trib	132														
Indian River trib	131														
Indian River	130														
MOB - Slough11 - Indian	125														
MOB - Gold Creek	119														
MOB - Slough 11	118														
MOB - 4th of July - Slough 11	117														
MOB - 4th of July Creek	116														
Fourth of July	115														
MOB - Sherman Creek	114														
MOB - Slough 9	112														
MOB - Gateway - 4th of July	111														
Gateway	110														
MOB - Slough 8A	109														
MOB - 5th of July Creek	108														
MOB - Lane Creek	106														
MOB - Lane - Gateway	105							2	2	1					
Lane Creek	100														
MOB - Trib off zone 95	98														
MOB - Whiskers Creek	97									1					
Whiskers	96		1												
MOB - Talkeetna - Lane	95	2													
<i>Lower River</i>															
MOB - Sunshine - Talkeetna	85													1	1
ADFG - Middle Chulitna	84														
MOB - Chulitna River	83														
ADFG Chulitna	82														
MOB - Talkeetna River	81														
ADFG Talkeetna	80														
ADFG Sunshine	78														
MOB - Rabideux Creek	77														
MOB - Sunshine Creek	76														
MOB - Montana - Sunshine	75														
MOB - Montana Creek	71														
MOB - Kashwitna - Montana	65		1	2	1	1	1								
Total Tags Live		2	2	2	1	1	1	2	2	1	1	2	2	1	1
Mort tags *		0	0	0	1	1	1	0	0	1	1	0	0	1	1

\* current location of mort tags not shown in table



Table B8. Round whitefish two-week post tagging location status by tagging group.

Whitefish, round		RIs before 7/1						RIs 7/1 - 7/14					RIs 7/15 - 7/31				
Zone Name	Zone Number	RIs	1 Jul	15 Jul	1 Aug	15 Aug	30 Aug	RIs	15 Jul	1 Aug	15 Aug	30 Aug	RIs	15 Jul	1 Aug	15 Aug	30 Aug
<i>Devils Canyon PRM 153.9-166.1</i>																	
MOB - Portage trib	152			2	2	2	2										
MOB - Jack Long Creek	146																
MOB - abv Powerline - Portage	145																
MOB - above Powerline	138																
Powerline	137																
MOB - Slough 21	136																
MOB - Indian - Slough 21	135														1		
MOB - Indian trib	132																
Indian River trib	131																
Indian River	130																
MOB - Slough11 - Indian	125																
MOB - Gold Creek	119						1										
MOB - Slough 11	118																
MOB - 4th of July - Slough 11	117		1	1	2	2	1										
MOB - 4th of July Creek	116																
Fourth of July	115			1											1		
MOB - Sherman Creek	114																
MOB - Slough 9	112																
MOB - Gateway - 4th of July	111		1	1	1	1	1										
Gateway	110		2														
MOB - Slough 8A	109																
MOB - 5th of July Creek	108																
MOB - Lane Creek	106																
MOB - Lane - Gateway	105	11	3	1	2	1	1					1	1	1	1	1	
Lane Creek	100		1	2		1	1										
MOB - Trib off zone 95	98																
MOB - Whiskers Creek	97																
Whiskers	96																
MOB - Talkeetna - Lane	95				1												
<i>Lower River</i>																	
MOB - Sunshine - Talkeetna	85		1	1	1	2	2										
ADFG - Middle Chulitna	84																
MOB - Chulitna River	83																
ADFG Chulitna	82																
MOB - Talkeetna River	81				1			1	1	1	1						
ADFG Talkeetna	80		1	1		1	1										
ADFG Sunshine	78																
MOB - Rabideux Creek	77																
MOB - Sunshine Creek	76																
MOB - Montana - Sunshine	75																
MOB - Montana Creek	71																
Montana	70																
MOB - Kashwitna - Montana	65																
MOB - Caswell area tribs	63																
MOB - Dshka - Kashwitna	55										1						
Total Tags Live		11	10	10	10	10	10	1	1	1	1	1	1	1	1	1	1
Mort tags *		0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1

\* current location of mort tags not shown in table