Federal Lands Highway

Road Inventory Program

Road Inventory and Condition Assessment

Gulf Islands National Seashore
GUIS

Cycle 5 Report

Prepared By: Federal Highway Administration
Road Inventory Program (RIP)
Data Collected: 07/2013
Report Date: 03/2014

Gulf Islands National Seashore
in
Florida and Mississippi

DCV = Data Collection Vehicle

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INTRODUCTION

The Federal Highway Administration, (FHWA), in the mid 1970s, was charged with the task of identifying surface condition deficiencies and corrective priorities on National Park Service (NPS) roads and parkways. Additionally, FHWA was tasked with establishing an integrated maintenance features inventory, locating features such as culverts, guardrails, and signs, among others, along NPS roads and parkways. As a result, in 1976 the NPS and FHWA entered into an MOA (Memorandum Of Agreement) which established the RIP (Road Inventory Program). This MOA was terminated and revised in 1980 to establish a new MOA aiming to update RIP data and develop a long-range program to improve and maintain NPS roads to designated condition standards and establish a maintenance management program.

The FHWA completed this initial phase of the RIP in the early 1980s. As a result of this effort, each NPS site included in the study received a RIP Report known as the "Brown Book" which included the information collected during this first RIP phase.

In the 1990s, the effort was again renewed to update and maintain the RIP data. By this time the computer age was upon us and a process was employed that relied heavily on electronic data collection and computer technology. A cyclical program was developed and the RIP completed two cycles of data collection from 1994 to 2001. Cycle 1, starting in 1994, was conducted in 44 "large parks" (parks containing 10 or more paved route miles). Cycle 2 began in 1997 and comprised 79 large parks and 5 small parks totaling 4,874 paved route miles. Each of these parks received a RIP Report known as the "Blue Book". Cycle 3, from 2001 to 2004, was conducted in all parks, large and small, that contained any paved routes, including parking areas and, again, each park received a RIP Report and associated electronic files.

Cycle 4 was initiated in the spring of 2006 covering 86 large parks and several associated small parks consisting of 5,553 paved route miles and 6,232 paved parking areas. Data collection has been completed for Cycle 4 and all data has been delivered to the NPS.

In 2005, the FHWA began implementing the use of a Pavement Management System (PMS) to assist the NPS in prioritizing Pavement Maintenance and Rehabilitation activities. The PMS used by FHWA is the Highway Pavement Management Application (HPMA) and this software has the ability to store inventory and condition data from RIP and forecast future performance using prediction models. Outputs include performance and condition reports at the National, Regional, Park, or Route level. A regional prioritized list and optimization have been produced for most regions and the Federal Highway Deferred Maintenance is calculated via the HPMA.

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions, an extensive study was completed throughout 2010 that has resulted in changes to the RIP condition reporting method, specifically the distresses and indexes that comprise the Pavement Condition Rating (PCR). It was determined that a better representation of PCR could

be achieved by modifying the relative impact certain distresses would have on the overall rating. The changes that were implemented were endorsed by management at both the FHWA and NPS in October 2010. These changes will allow greater use of RIP and HPMA data for not simply condition data reporting, but also as a reliable tool for project identification and selection. Because of these changes, the PCR Condition ratings reported in Cycle 5 do not directly relate to the condition ratings reported in previous cycle RIP Reports. For more detailed information about the changes, see Section 3 and Section 10 in this RIP Report.

Cycle 5 has launched in the summer of 2010 and will again comprise all parks, large and small, that are served by paved roads and/or parking areas. For Cycle 5, the decision was made to collect condition data in large parks on Functional Class 1, 2, and 7 paved routes only, as well as any new routes that were previously not collected. In small parks, all paved routes and parking areas will be collected. As a result, this will include 81 large parks with 4,459 paved route miles and 231 small parks with 529 paved route miles and associated paved parking areas.

Since 1984, the Road Inventory Program has been funded through the Federal Lands Highway Park Roads and Parkways (PRP) Program. Currently, coordination of the RIP with FLH is under the NPS Washington Headquarters Park Facility Management Division. The FLH Washington office coordinates policy and prepares national reports and needs assessment studies for Congress.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) amended Title 23 U.S.C., and inserted Section 204(a)(6) requiring the FHWA and NPS, to develop by rule, a Pavement Management System (PMS) applied to park roads and parkways serving the National Park System.

FLH is responsible for the accuracy of all data presented in this report. Any questions or comments concerning the contents of this report should be directed to the national RIP Coordinator located in Sterling, Virginia.

Respectfully,

FHWA RIP Team

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Section 2
Park Route Inventory

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

Cycle 5 NPS/RIP Route ID Report

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
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GUIS

GULF ISLANDS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0011	**5**	**59498**		**J. EARLE BOWDEN WAY / STATE ROUTE 399**	**FROM WEST PARK BOUNDARY ON STATE ROUTE 399 (GULF BOULEVARD)**	**TO EAST PARK BOUNDARY ON STATE ROUTE 399 (GULF BOULEVARD)**	**SANTA ROSA**	**7.29**	**0.00**	**7.29**	**1**		**AS**	**5**
0012	**5**	**59617**		**FORT PICKENS ROAD**	**FROM EAST PARK BOUNDARY ON FORT PICKENS ROAD**	**TO ROUTE 0500 (FORT PICKENS LOOP ROAD)**	**FORT PICKENS**	**7.18**	**0.00**	**7.18**	**1**		**AS**	**3**
0013	**5**	**59556**		**JOHNSON BEACH ROAD**	**FROM PARK BOUNDARY ON JOHNSON BEACH ROAD**	**TO END OF LOOP**	**PERDIDO KEY**	**2.48**	**0.00**	**2.48**	**1**		**AS**	**2**
0015	**5**	**59709**		**PARK ROAD**	**FROM U.S. HIGHWAY 90 (BIENVILLE BOULEVARD)**	**TO ROUTE 0904 (DAVIS BAYOU VISITOR CENTER PARKING)**	**DAVIS BAYOU**	**2.17**	**0.00**	**2.17**	**1**		**AS**	**1**
0016	**5**	**71274**		**ROBERT MCGEE ROAD**	**FROM ROUTE 0015 (PARK ROAD)**	**TO END OF LOOP**	**DAVIS BAYOU**	**0.82**	**0.00**	**0.82**	**1**		**AS**	**1**
0017	**5**	**113821**		**GOLLOTT ROAD**	**FROM ROUTE 0015 (PARK ROAD)**	**TO END**	**DAVIS BAYOU**	**0.60**	**0.00**	**0.60**	**1**		**AS**	**1**
0018	NC	114390		PENSACOLA LIGHTHOUSE ENTRANCE ROAD	FROM RADFORD BOULEVARD	TO SHELL ROAD	PENSACOLA LIGHTHOUSE	0.00	0.40	0.40	1		GR	
0100	4	71280		LANGDON BEACH ACCESS ROAD	FROM ROUTE 0012 (FORT PICKENS ROAD) AT MP 5.01	TO ROUTE 0012 (FORT PICKENS ROAD) AT MP 4.76	FORT PICKENS	0.33	0.00	0.33	3		AS	3
0102	**5**	**71290**		**EAGLE POINT ROAD**	**FROM ROUTE 0015 (PARK ROAD)**	**TO SOUTH PARK BOUNDARY (PAVEMENT CHANGE)**	**DAVIS BAYOU**	**0.06**	**0.00**	**0.06**	**1**		**AS**	**1**
0103	4	71295		BOAT LAUNCH ROAD	FROM ROUTE 0016 (ROBERT MCGEE ROAD)	TO END OF LOOP	DAVIS BAYOU	0.19	0.00	0.19	3		AS	1
0200	4	72675		NATURE TRAIL ACCESS ROAD	FROM ROUTE 0013 (JOHNSON BEACH ROAD)	TO ROUTE 0935 (NATURE TRAIL PARKING)	PERDIDO KEY	0.15	0.00	0.15	3		AS	2
0201	4	72738		FORT PICKENS CAMPGROUND LOOPS B-E	FROM ROUTE 0012 (FORT PICKENS ROAD)	THROUGH CAMPGROUND	FORT PICKENS	1.40	0.00	1.40	3	73,709	AS	3
0202	4	72742		FORT PICKENS CAMPGROUND LOOP A	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO END OF LOOP	FORT PICKENS	0.38	0.00	0.38	3	20,117	AS	3
0205	NC	81802		PICNIC (PRIMITIVE AREA) ACCESS ROAD	FROM U.S. HIGHWAY 98	TO END OF ROUTE	NAVAL LIVE OAKS	0.00	0.18	0.18	3		GR	
0206ZZ	4	72686		DAVIS BAYOU CAMPGROUND ROADS	FROM ROUTE 0016 (ROBERT MCGEE ROAD)	THROUGH CAMPGROUND	DAVIS BAYOU	0.43	0.00	0.43	3		AS	1

Cycle 5 NPS/RIP Route ID Report

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GUIS

GULF ISLANDS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0207	4	72679		HEADQUARTERS AND VISITOR CENTER ACCESS ROAD	FROM ROUTE 5000 (U.S. HIGHWAY 98) AT MP 1.34	TO ROUTE 5000 (U.S. HIGHWAY 98) AT MP 1.6	NAVAL LIVE OAKS	0.44	0.00	0.44	3		AS	4
0210	4	56650		NAVAL LIVE OAKS ROAD	FROM ROUTE 5000 (U.S. HIGHWAY 98)	TO ROUTE 0922 (NAVAL LIVE OAKS GROUP CAMPING AREA PARKING)	NAVAL LIVE OAKS	0.40	0.00	0.40	3		AS	4
0211	4	59042		OKALOOSA WEST ACCESS ROAD	FROM U.S. HIGHWAY 98 (MIRACLE STRIP PARKWAY)	TO DEAD END AND ROUTE 0937 (OKALOOSA BOAT LAUNCH PARKING) ON RIGHT	OKALOOSA	0.14	0.00	0.14	3	12,566	AS	6
0212	4	116836		OPAL BEACH ROAD	FROM ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	TO ROUTE 0928 (OPAL BEACH PARKING #5)	SANTA ROSA	0.33	0.00	0.33	3		AS	5
0400	NC	104213		YACC ACCESS ROAD	FROM LANGDON PICNIC ACCESS	TO END OF PARKING AREA	FORT PICKENS	0.00	0.18	0.18	4		GR	
0401	4	102968		FORT PICKENS DISTRICT OFFICE ROAD	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO END OF PAVEMENT	FORT PICKENS	0.12	0.00	0.12	5	7,350	AS	3
0402	4	102969		FORT PICKENS SERVICE ROAD	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO ROUTE 0500 (FORT PICKENS LOOP ROAD)	FORT PICKENS	0.14	0.00	0.14	5	9,124	AS	3
0405	**5**	**72684**		**VFW ROAD**	**FROM ROUTE 0015 (PARK ROAD)**	**TO PARK BOUNDARY AT T-INTERSECTION KNAPP ROAD (NON-NPS)**	**DAVIS BAYOU**	**0.09**	**0.00**	**0.09**	**2**		**AS**	**1**
0406	4	113828		GOVERNMENT BOAT DOCK ROAD	FROM ROUTE 0015 (PARK ROAD)	TO ROUTE 0905 (GOVERNMENT BOAT DOCK PARKING)	DAVIS BAYOU	0.13	0.00	0.13	5		AS	1
0407	NC	72681		YCC ACCESS ROAD (CARPENTER SHOP ROAD)	FROM ROUTE 0400 (YACC ACCESS ROAD)	TO CARPENTER SHOP	FORT PICKENS	0.00	0.18	0.18	5		GR	
0408	NC	81801		FORT PICKENS GROUP CAMPING ACCESS ROAD	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO FORT PICKENS GROUP CAMP AREA	FORT PICKENS	0.00	0.15	0.15	4		GR	
0409	**5**	**227905**		**CEDAR POINT CAMPUS ROAD**	**FROM ROUTE 0015 (PARK ROAD)**	**TO PARK BOUNDARY**	**DAVIS BAYOU**	**0.04**	**0.00**	**0.04**	**2**		**AS**	**1**
0410	**5**	**241758**		**YATES HOUSE COMPOUND ROAD**	**FROM PAVED ROUTE (EAGLE POINT ROAD / NON NPS)**	**TO STORAGE AREA**	**DAVIS BAYOU**	**0.08**	**0.00**	**0.08**	**6**		**AS**	**1**
0500	**5**	**72128**		**FORT PICKENS LOOP ROAD**	**FROM ROUTE 0012 (FORT PICKENS ROAD) AT MP 6.98 (EAST SIDE)**	**TO ROUTE 0012 (FORT PICKENS ROAD) AT MP 6.98 (WEST SIDE)**	**FORT PICKENS**	**1.03**	**0.00**	**1.03**	**1**		**AS**	**3**

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GULF ISLANDS NATIONAL SEASHORE

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0501	4	72683		BATTERY 234 LOOP ROAD	FROM ROUTE 0012 (FORT PICKENS ROAD) AT MP 6.46	TO ROUTE 0012 (FORT PICKENS ROAD) AT MP 6.03	FORT PICKENS	0.62	0.00	0.62	3		AS	3
0902	4	72695		DAVIS BAYOU BOAT LAUNCH PARKING	FROM ROUTE 0103 (BOAT LAUNCH ROAD)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		13,722	AS	1
0903	4	72700		DAVIS BAYOU MAINTENANCE PARKING	FROM ROUTE 0016 (ROBERT MCGEE ROAD)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		51,498	AS	1
0904	4	72702		DAVIS BAYOU VISITOR CENTER PARKING	FROM END OF ROUTE 0015 (PARK ROAD)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		88,445	AS	1
0905	4	72704		GOVERNMENT BOAT DOCK PARKING	FROM END OF ROUTE 0406 (GOVERNMENT BOAT DOCK ROAD)	TO BOAT DOCK	DAVIS BAYOU	0.00	0.00	0.00		13,060	AS	1
0906	4	72706		ROSAMOND JOHNSON BEACH ACCESS PARKING	FROM INTERSECTION OF ROUTE 0013 (JOHNSON BEACH ROAD) AND ROUTE 0200 (NATURE TRAIL ACCESS ROAD)	TO PARKING	PERDIDO KEY	0.00	0.00	0.00		153,044	AS	2
0907ZZ	**5**	**72708**		**FORT PICKENS DISTRICT PARKING LOTS**	**FROM ROUTE 0012 (FORT PICKENS ROAD) ON LEFT AND RIGHT**	**TO PARKING**	**FORT PICKENS**	**0.00**	**0.00**	**0.00**		**24,419**	**AS**	**3**
0908	**5**	**72710**		**FORT PICKENS PARKING**	**ADJACENT TO ROUTE 0500 (FORT PICKENS LOOP ROAD) ON RIGHT**		**FORT PICKENS**	**0.00**	**0.00**	**0.00**		**40,515**	**AS**	**3**
0909	4	72711		BATTERY TRUEMAN PARKING	ADJACENT TO ROUTE 0500 (FORT PICKENS LOOP ROAD) ON LEFT		FORT PICKENS	0.00	0.00	0.00		3,349	AS	3
0910	4	72714		JETTIES RESTROOM PARKING	ADJACENT TO ROUTE 0500 (FORT PICKENS LOOP ROAD) ON LEFT		FORT PICKENS	0.00	0.00	0.00		2,582	AS	3
0911	4	72717		BATTERY PAYNE PARKING	ADJACENT TO ROUTE 0500 (FORT PICKENS LOOP ROAD) ON RIGHT		FORT PICKENS	0.00	0.00	0.00		3,840	AS	3
0912	4	72720		GRAVES PARKING	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO ROUTE 0012 (FORT PICKENS ROAD)	FORT PICKENS	0.00	0.00	0.00		5,206	AS	3
0913	4	72722		BATTERY 234 PARKING	ADJACENT TO ROUTE 0501 (BATTERY 234 LOOP ROAD) ON LEFT		FORT PICKENS	0.00	0.00	0.00		3,604	AS	3
0914	4	72728		BATTERY COOPER PARKING	ADJACENT TO ROUTE 0501 (BATTERY 234 LOOP ROAD) ON LEFT		FORT PICKENS	0.00	0.00	0.00		3,353	AS	3

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GULF ISLANDS NATIONAL SEASHORE

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0915	4	72731		BATTERY WORTH PICNIC ACCESS AND PARKING	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO PARKING	FORT PICKENS	0.00	0.00	0.00		76,862	AS	3
0916	4	79900		CAMPGROUND STORE PARKING	ADJACENT TO ROUTE 0012 (FORT PICKENS ROAD) AND ROUTE 0201 (FORT PICKENS CAMPGROUND LOOPS B-E)		FORT PICKENS	0.00	0.00	0.00		12,371	AS	3
0918ZZ	4	72745		LANGDON BEACH PARKING LOTS	ADJACENT TO ROUTE 0100 (LANGDON BEACH ACCESS ROAD)		FORT PICKENS	0.00	0.00	0.00		23,051	AS	3
0919	4	72748		CAMPGROUND REGISTRATION / RANGER STATION COMPLEX PARKING	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO PARKING	FORT PICKENS	0.00	0.00	0.00		41,832	AS	3
0920	4	72756		PUBLIC BEACH PARKING #22	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO ROUTE 0012 (FORT PICKENS ROAD)	FORT PICKENS	0.00	0.00	0.00		21,443	AS	3
0921	4	72766		PUBLIC BEACH PARKING #21	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO ROUTE 0012 (FORT PICKENS ROAD)	FORT PICKENS	0.00	0.00	0.00		21,605	AS	3
0922	4	72773		NAVAL LIVE OAKS GROUP CAMPING AREA PARKING	FROM END OF ROUTE 0210 (NAVAL LIVE OAKS ROAD)	TO PARKING	NAVAL LIVE OAKS	0.00	0.00	0.00		13,814	AS	4
0923	4	72781		NAVAL LIVE OAKS NORTH PARKING	FROM ROUTE 0210 (NAVAL LIVE OAKS ROAD)	TO ROUTE 0924 (NAVAL LIVE OAKS MAINTENANCE COMPLEX PARKING)	NAVAL LIVE OAKS	0.00	0.00	0.00		18,811	AS	4
0924	4	72783		NAVAL LIVE OAKS MAINTENANCE COMPLEX PARKING	FROM ROUTE 0923 (NAVAL LIVE OAKS NORTH PARKING)	TO PARKING	NAVAL LIVE OAKS	0.00	0.00	0.00		48,566	AS	4
0925ZZ	4	72784		HEADQUARTERS & VISITORS CENTER PARKING LOTS	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD)		NAVAL LIVE OAKS	0.00	0.00	0.00		56,716	AS	4
0926	4	72786		PUBLIC PARKING #8	FROM ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	TO ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	SANTA ROSA	0.00	0.00	0.00		26,374	AS	5
0927	4	72787		PUBLIC PARKING #7	FROM ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	TO ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	SANTA ROSA	0.00	0.00	0.00		32,432	AS	5
0928	4	72789		OPAL BEACH PARKING #5	FROM END OF ROUTE 0212 (OPAL BEACH ROAD)	TO PARKING	SANTA ROSA	0.00	0.00	0.00		45,426	AS	5

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0929	4	72791		PUBLIC PARKING #6	FROM ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	TO PARKING	SANTA ROSA	0.00	0.00	0.00		25,283	AS	5
0930	4	72793		OPAL BEACH PARKING #2 EAST	FROM ROUTE 0212 (OPAL BEACH ROAD)	TO PARKING	SANTA ROSA	0.00	0.00	0.00		49,259	AS	5
0931	4	72795		PUBLIC PARKING #1	FROM ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	TO ROUTE 0011 (J. EARLE BOWDEN WAY / STATE ROUTE 399)	SANTA ROSA	0.00	0.00	0.00		24,626	AS	5
0932	4	72796		FORT WALTON BEACH PARKING	FROM U.S. HIGHWAY 98 (MIRACLE STRIP PARKWAY)	TO ROUTE 0945 (OKALOOSA PICNIC AREA PARKING)	OKALOOSA	0.00	0.00	0.00		69,845	AS	6
0933	4	102988		BATTERY LANGDON PARKING	ADJACENT TO ROUTE 0012 (FORT PICKENS ROAD) ON RIGHT		FORT PICKENS	0.00	0.00	0.00		7,136	AS	3
0934	**5**	**102993**		**OPAL BEACH COMPLEX PARKING**	**FROM ROUTE 0212 (OPAL BEACH ROAD)**	**TO PARKING**	**SANTA ROSA**	**0.00**	**0.00**	**0.00**		**4,594**	**AS**	**5**
0935	4	59589		NATURE TRAIL PARKING	FROM END OF ROUTE 0200 (NATURE TRAIL ACCESS ROAD)	TO PARKING	PERDIDO KEY	0.00	0.00	0.00		9,072	AS	2
0936	NC	105924		DAVIS BAYOU PRIMITIVE CAMPGROUND PARKING LOT	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		8,800	GR	
0937	4	113842		OKALOOSA BOAT LAUNCH PARKING	FROM ROUTE 0945 (OKALOOSA PICNIC AREA PARKING)	TO ROUTE 0211 (OKALOOSA WEST ACCESS ROAD)	OKALOOSA	0.00	0.00	0.00		15,155	AS	6
0938	**5**	**59057**		**FORT BARRANCAS PARKING**	**FROM TAYLOR ROAD**	**TO PARKING**	**FORT BARRANCAS**	**0.00**	**0.00**	**0.00**		**20,384**	**AS**	**3**
0939	NC	101820		DUNE NATURE TRAIL PARKING	ADJACENT TO ROUTE 0012 (FORT PICKENS ROAD)		FORT PICKENS	0.00	0.00	0.00		3,000	GR	
0940	NC	114391		PENSACOLA LIGHTHOUSE PARKING	FROM TAYLOR ROAD	TO PARKING	PENSACOLA LIGHTHOUSE	0.00	0.00	0.00		800	GR	
0941	**5**	**108369**		**ADVANCE REDOUBT PARKING**	**FROM TAYLOR ROAD**	**TO PARKING**	**FORT BARRANCAS**	**0.00**	**0.00**	**0.00**		**18,064**	**AS**	**3**
0942	NC	106121		DAVIS BAYOU NATURE'S WAY TRAIL ROADSIDE PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		3,040	GR	
0943	NC	106120		ROBERT MCGEE ROAD CIRCLE PICNIC AREA PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		4,608	GR	

Cycle 5 NPS/RIP Route ID Report

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GUIS

GULF ISLANDS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0944	NC	106119		DAVIS BAYOU PICNIC AREA PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		9,900	GR	
0945	4	113843		OKALOOSA PICNIC AREA PARKING	FROM ROUTE 0932 (FORT WALTON BEACH PARKING)	TO ROUTE 0937 (OKALOOSA BOAT LAUNCH PARKING)	OKALOOSA	0.00	0.00	0.00		10,682	AS	6
0946	NC	105925		DAVIS BAYOU PICNIC SHELTER #1 PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		12,800	GR	
0947	NC	105926		DAVIS BAYOU PICNIC SHELTER #2 PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		5,400	GR	
0948	NC	105928		DAVIS BAYOU PICNIC SHELTER #3 PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		3,640	GR	
0949	NC	105929		DAVIS BAYOU PICNIC SHELTER #4 PARKING	ADJACENT TO ROUTE 0016 (ROBERT MCGEE ROAD)		DAVIS BAYOU	0.00	0.00	0.00		1,296	GR	
0950	NC	106116		DAVIS BAYOU PICNIC SHELTER #3 OVERFLOW PARKING #1	FROM ROUTE 0948 (DAVIS BAYOU PICNIC SHELTER #3 PARKING)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		3,125	GR	
0951	NC	106117		DAVIS BAYOU PICNIC SHELTER #3 OVERFLOW PARKING #2	FROM ROUTE 0950 (DAVIS BAYOU PICNIC SHELTER #3 OVERFLOW PARKING #1)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		2,210	GR	
0952	NC	106118		DAVIS BAYOU PICNIC SHELTER #4 OVERFLOW PARKING	FROM ROUTE 0949 (DAVIS BAYOU PICNIC SHELTER #4 PARKING)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		2,160	GR	
0953	NC	105930		DAVIS BAYOU RAMP RESTROOM / PICNIC SHELTER #5 PARKING	ADJACENT TO ROUTE 0103 (BOAT LAUNCH ROAD)		DAVIS BAYOU	0.00	0.00	0.00		1,500	GR	
0954	4	116835		OPAL BEACH PARKING #4 WEST	FROM ROUTE 0212 (OPAL BEACH ROAD)	TO PARKING	SANTA ROSA	0.00	0.00	0.00		40,803	AS	5
0955	4	59515		OPAL BEACH PARKING #3 EAST	FROM ROUTE 0212 (OPAL BEACH ROAD)	TO PARKING	SANTA ROSA	0.00	0.00	0.00		39,530	AS	5
0956	NC	241759		DAVIS BAYOU BOAT LAUNCH UNPAVED PARKING	FROM ROUTE 0902 (DAVIS BAYOU BOAT LAUNCH PARKING)	TO PARKING	DAVIS BAYOU	0.00	0.00	0.00		7,650	GR	
5000	4			U.S. HIGHWAY 98	FROM WEST PARK BOUNDARY ON U.S. HIGHWAY 98 (GULF BREEZE PARKWAY)	TO EAST PARK BOUNDARY ON U.S. HIGHWAY 98 (GULF BREEZE PARKWAY)	N/A	2.33	0.00	2.33			AS	4

Cycle 5 NPS/RIP Route ID Report

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*** Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

CYCLE 5 COLLECTED SUMMARY TOTALS FOR GULF ISLANDS NATIONAL SEASHORE

CYCLE 5 COLLECTED ROUTE TOTALS

DCV Driven Route Miles	21.83
Manually Rated Route Miles	0.00
TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5	21.83
Manually Rated Routes (SQFT)	0

* CYCLE 5 COLLECTED PARKING AREA TOTALS

Paved Parking (SQFT)	90,430

CYCLE 5 COLLECTED CONCESSION TOTALS

Concession Paved Route Miles	0.00
Concession Paved Parking Area SQFT	0
Concession Manually Rated Routes SQFT	0

CYCLE 5 COLLECTED WEIGHTED AVERAGE PARK VALUES

DCV Driven PCR	93
**Manually Rated Routes PCR	N/A
**Parking PCR	67
***Total Equivalent Lane Miles	56.30

TOTAL PARK SUMMARY FOR GULF ISLANDS NATIONAL SEASHORE

ROUTE TOTALS

TOTAL PAVED PARK ROUTE MILES	27.03
TOTAL PAVED PARKING (SQFT)	1,180,373

* - The Parking Area Totals SQFT value represents **all** parking areas collected in Cycle 5, both park and concessionaire.

** - Parking and Manually Rated Routes are assigned the following PCR values based on their observed condition: Construction=-1, Excellent=97, Good=90, Fair=73, and Poor=45.

*** - Equivalent Lane Miles are calculated by route using the following equations : DCV and Manually Rated Lines Routes=(PAVE_WIDTHxPAVED_MI)/11 foot lane. Parking Areas=SQ_FEET/5280/11. Manually Rated Polygons=SQ_FEET/5280/11.

Cycle 5 NPS/RIP Route ID Report

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General Park Road Functional Classification Table

Class 1 Principal Park Road/Rural Parkway (Public Roads) Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Route Numbers 1 - 99. Note: Rural parkways (e.g. Natchez Trace) are numbered 1 - 9. State Routes Inventoried for Park. Route Numbers 5000-5999

Class 2 Connector Park Road (Public Roads) - Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc. Route Numbers 100-199.

Class 3 Special Purpose Park Road (Public Roads) - Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation. Route Numbers 200-299.

Class 4 Primitive Park Roads (Public Roads) - Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Route Numbers 200-299.
Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.

Class 5 Administrative Access Road (Administrative Roads) - All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas. Route Numbers 400-499.

Class 6 Restricted Road (Administrative Roads) - All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Route Numbers 400-499.
Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.

Class 7 Urban Parkway (Urban Parkways and City Streets) - These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category. Route Numbers 1-9.

Class 8 City Streets (Urban Parkways and City Streets) - City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions. Route Numbers 600-699.

****

A park road system contains those roads within or giving access to a park or other unit of the NPS which are administered by the NPS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a park road is not based on traffic volumes or design speed, but on the intended use or function of that road or route.

The historic route numbering system also included a 300 number series for interpretive roads, and a 500 series for one-way roads. There are approximately 250 roads nationwide which are designated by the 300 and 500 series. The numbers for these roads will be maintained for reporting consistency. However, since these interpretive and one-way routes are not as clearly tied to a specific functional class, the 300 and 500 series will be discontinued for future use.

5000 route numbers are assigned to Non-NPS Routes that are State, County or City owned which border, traverse, or provide access to Park Facilities or Locations. 5000 Routes are driven for GPS and Video Log only.

Surface Type Abbreviations:

AS - Asphaltic Concrete Pavement

CO - Portland Cement Concrete Pavement

BR - Brick or Pavers Road Bed

CB - Cobble Stone Road Bed

GR - Gravel Road Bed

SA - Sand Road Bed

NV - Native or Dirt Material Road Bed

OT - Other Materials Road Bed

NPS/RIP Subcomponent Details for GUIS

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GUIS

GULF ISLANDS NATIONAL SEASHORE

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0206ZZ	72686	4	DAVIS BAYOU CAMPGROUND ROADS	FROM ROUTE 0016 (ROBERT MCGEE ROAD)	THROUGH CAMPGROUND		3	0.43	0.00	0.43	
0907ZZ	**72708**	**5**	**FORT PICKENS DISTRICT PARKING LOTS**	**FROM ROUTE 0012 (FORT PICKENS ROAD) ON LEFT AND RIGHT**	**TO PARKING**			**0.00**	**0.00**	**0.00**	**24,419**
0918ZZ	72745	4	LANGDON BEACH PARKING LOTS	ADJACENT TO ROUTE 0100 (LANGDON BEACH ACCESS ROAD)				0.00	0.00	0.00	23,051
0925ZZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING LOTS	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD)				0.00	0.00	0.00	56,716

GUIS-0206ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0206AZ	72686	4	DAVIS BAYOU CAMPGROUND LOOP A	FROM ROUTE 0016 (ROBERT MCGEE ROAD)	TO END OF LOOP		3	0.31	0.00	0.31	
0206BZ	72686	4	DAVIS BAYOU CAMPGROUND LOOP B	FROM ROUTE 0206AZ (DAVIS BAYOU CAMPGROUND LOOP A)	TO END OF LOOP		3	0.12	0.00	0.12	

GUIS-0907ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0907AZ	72708	4	FORT PICKENS DISTRICT PARKING A	FROM ROUTE 0012 (FORT PICKENS ROAD)	TO ROUTE 0500 (FORT PICKENS LOOP ROAD)			0.00	0.00	0.00	13,625
0907BZ	**72708**	**5**	**FORT PICKENS DISTRICT PARKING B**	**FROM ROUTE 0012 (FORT PICKENS ROAD)**	**TO PARKING**			**0.00**	**0.00**	**0.00**	**6,873**
0907CZ	72708	4	FORT PICKENS DISTRICT PARKING C	ADJACENT TO ROUTE 0012 (FORT PICKENS ROAD)				0.00	0.00	0.00	2,296
0907DZ	72708	4	FORT PICKENS DISTRICT PARKING D	ADJACENT TO ROUTE 0012 (FORT PICKENS ROAD)				0.00	0.00	0.00	1,625

NPS/RIP Subcomponent Details for GUIS

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Green = All Unpaved Parking Areas
Grey = Paved Routes, DCV not Driven
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GUIS

GULF ISLANDS NATIONAL SEASHORE

GUIS-0918ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0918AZ	72745	4	LANGDON BEACH PARKING A	ADJACENT TO ROUTE 0100 (LANGDON BEACH ACCESS ROAD) ON RIGHT				0.00	0.00	0.00	9,749
0918BZ	72745	4	LANGDON BEACH PARKING B	ADJACENT TO ROUTE 0100 (LANGDON BEACH ACCESS ROAD) ON LEFT				0.00	0.00	0.00	13,302

NPS/RIP Subcomponent Details for GUIS

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GUIS

GULF ISLANDS NATIONAL SEASHORE

GUIS-0925ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0925AZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING A	FROM ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) ON LEFT	TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD)			0.00	0.00	0.00	38,730
0925BZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING B	FROM ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.05 ON RIGHT	TO PARKING			0.00	0.00	0.00	2,543
0925CZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING C	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.08 ON LEFT				0.00	0.00	0.00	997
0925DZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING D	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.09 ON LEFT				0.00	0.00	0.00	1,553
0925EZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING E	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.09 ON RIGHT				0.00	0.00	0.00	1,065
0925FZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING F	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.11 ON RIGHT				0.00	0.00	0.00	430
0925GZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING G	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.11 ON LEFT				0.00	0.00	0.00	1,174
0925HZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING H	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.11 ON RIGHT				0.00	0.00	0.00	625
0925IZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING I	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.13 ON RIGHT				0.00	0.00	0.00	2,244
0925JZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING J	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.17 ON RIGHT				0.00	0.00	0.00	655

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GUIS

GULF ISLANDS NATIONAL SEASHORE

GUIS-0925ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0925KZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING K	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.18 ON RIGHT				0.00	0.00	0.00	1,928
0925LZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING L	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.20 ON RIGHT				0.00	0.00	0.00	1,243
0925MZ	72784	4	HEADQUARTERS & VISITORS CENTER PARKING M	ADJACENT TO ROUTE 0207 (HEADQUARTERS AND VISITOR CENTER ACCESS ROAD) AT MP 0.25 ON RIGHT				0.00	0.00	0.00	3,529

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - GUIS

ROUTES ADDED FROM PREVIOUS INVENTORY:

Route #	Route Name	Reason for Addition	Comments
0410	YATES HOUSE COMPOUND ROAD	OTHER	ROUTE ADDED TO INVENTORY IN CYCLE 5.

ROUTES MODIFIED FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Modification	Comments
0908	FORT PICKENS PARKING	RECONSTRUCTED	PARKING LOT SHAPE WAS RECOLLECTED IN CYCLE 5 BECAUSE A NEW PAVEMENT ADDITION WAS ADDED NEAR THE NEW SHELTER HOUSE.

OTHER CHANGES FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Change	Comments
0016	ROBERT MCGEE ROAD	ROUTE NAME	ROUTE NAME CHANGED FROM "HANLEY ROAD".
0102	EAGLE POINT ROAD	LENGTH CHANGE	ROUTE LENGTH WAS SHORTENED IN CYCLE 5 AS IT NOW TERMINATES AT THE SOUTH PARK BOUNDARY (THE BOUNDARY WAS NOT IDENTIFIED CORRECTLY IN CYCLE 4).
0405	VFW ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 4 TO 2 BECAUSE IT IS A CONNECTOR ROAD.
0406	GOVERNMENT BOAT DOCK ROAD	ROUTE NAME	ROUTE NAME CHANGED FROM "DAVIS BAYOU GOVERNMENT BOAT LAUNCH ROAD".
0409	CEDAR POINT CAMPUS ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 6 TO 2 BECAUSE IT IS A PUBLIC, CONNECTOR ROAD. DRIVEN WITH THE DATA COLLECTION VEHICLE (DCV) IN CYCLE 5, RATHER THAN BEING MANUALLY RATED AS IT WAS IN CYCLE 4.
0500	FORT PICKENS LOOP ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 3 TO 1 BECAUSE THIS IS A PRIMARY ROAD FOR PARK VISITORS.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - GUIS

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Change**	**Comments**
0907ZZ	FORT PICKENS DISTRICT PARKING LOTS	SQ FEET CHANGE	GPS WAS RECOLLECTED IN CYCLE 5. AN ASPHALT SECTION WAS ADDED TO THE NORTHEAST END OF PARKING AREA B.
0934	OPAL BEACH COMPLEX PARKING	SQ FEET CHANGE	PARKING AREA WAS UNDER CONSTRUCTION IN CYCLE 4. GPS OF THE ENTIRE PARKING AREA WAS COLLECTED IN CYCLE 5.
0938	FORT BARRANCAS PARKING	SQ FEET CHANGE	PARKING AREA GPS WAS RECOLLECTED IN CYCLE 5 TO UPDATE THE PARKING LOT ISLAND SHAPE.
0941	ADVANCE REDOUBT PARKING	SQ FEET CHANGE	PARKING AREA GPS WAS RECOLLECTED IN CYCLE 5 TO UPDATE THE PARKING LOT ISLAND SHAPE.

Section 3
Park Summary Information

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

GUIS: PAVED ROUTE MILES AND PERCENTAGES BY FUNCTIONAL CLASS AND PCR

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (0-60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	0.62	2.84%	3.44	15.76%	5.72	26.20%	11.84	54.24%	**21.62**
2			0.04	0.18%	0.03	0.14%	0.06	0.27%	**0.13**
3									
4									
5									
6	0.08	0.37%							**0.08**
7									
8									
Totals	**0.70**	**3.21%**	**3.48**	**15.94%**	**5.75**	**26.34%**	**11.90**	**54.51%**	**21.83**

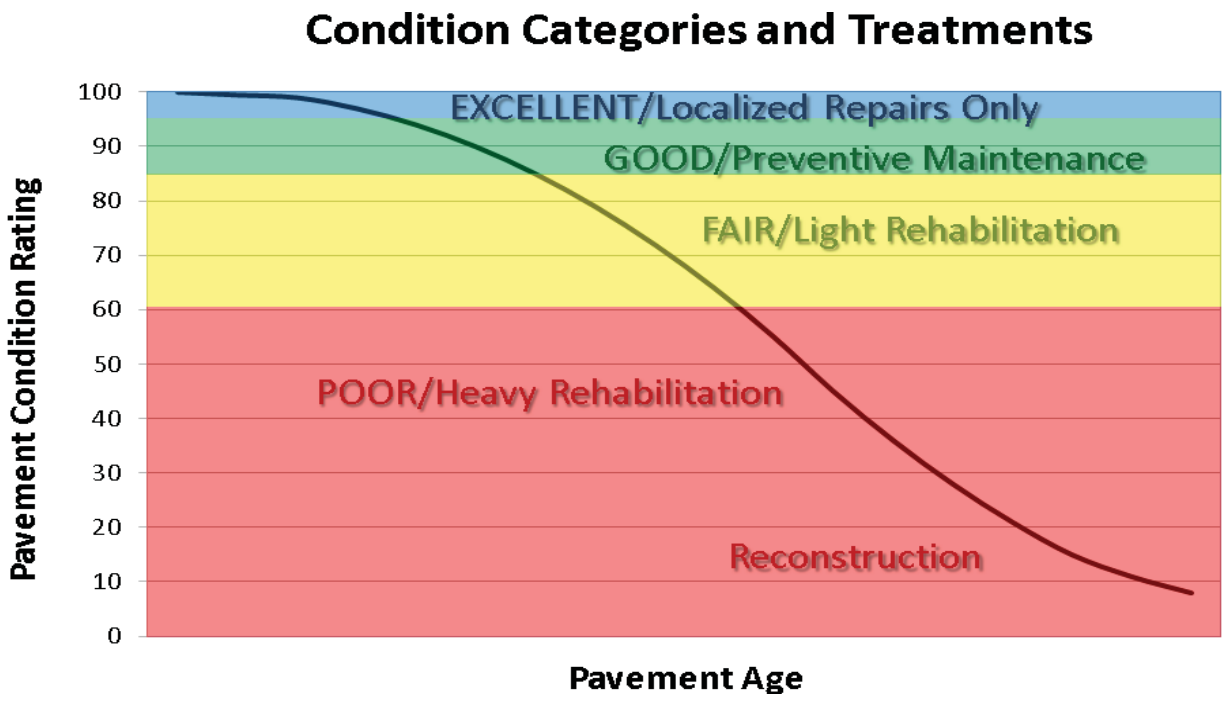
Note: **The information in this table is derived from the PMS_20 table in the Park database, which only contains processed data from routes collected with the Data Collection Vehicle (DCV). Information for Manually Rated Routes (MRR) and Parking Areas is not reported in this table. Only Functional Class 1, 2, & 7 routes, and any new routes not previously collected by RIP, are collected in Large Parks.**

Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

In addition to the RIP Index changes that have been implemented in Cycle 5, we will also aim to provide greater assistance in translating excellent/good/fair/poor categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the types of treatments that should be considered now and into the future.

- Excellent/New: PCR of 95-100. Pavements in this range will require only spot repairs
- Good: PCR of 85-94. Pavements in this range will likely be candidates for Preventive Maintenance. Examples include Chip and Slurry Seals, Micro Surfacing and Thin Overlays.
- Fair: PCR of 61-84. Pavements in this range will likely be candidates of Light Rehabilitation (L3R). Examples include single-lift overlays up to 2.5 inches in total thickness, milling and overlays.
- Poor: PCR of 0-60. Pavements in this range will likely be candidates of Heavy Rehabilitation or Reconstruction (H3R or 4R). Examples include Pulverization, Multiple Lift Overlays, and Reconstruction.

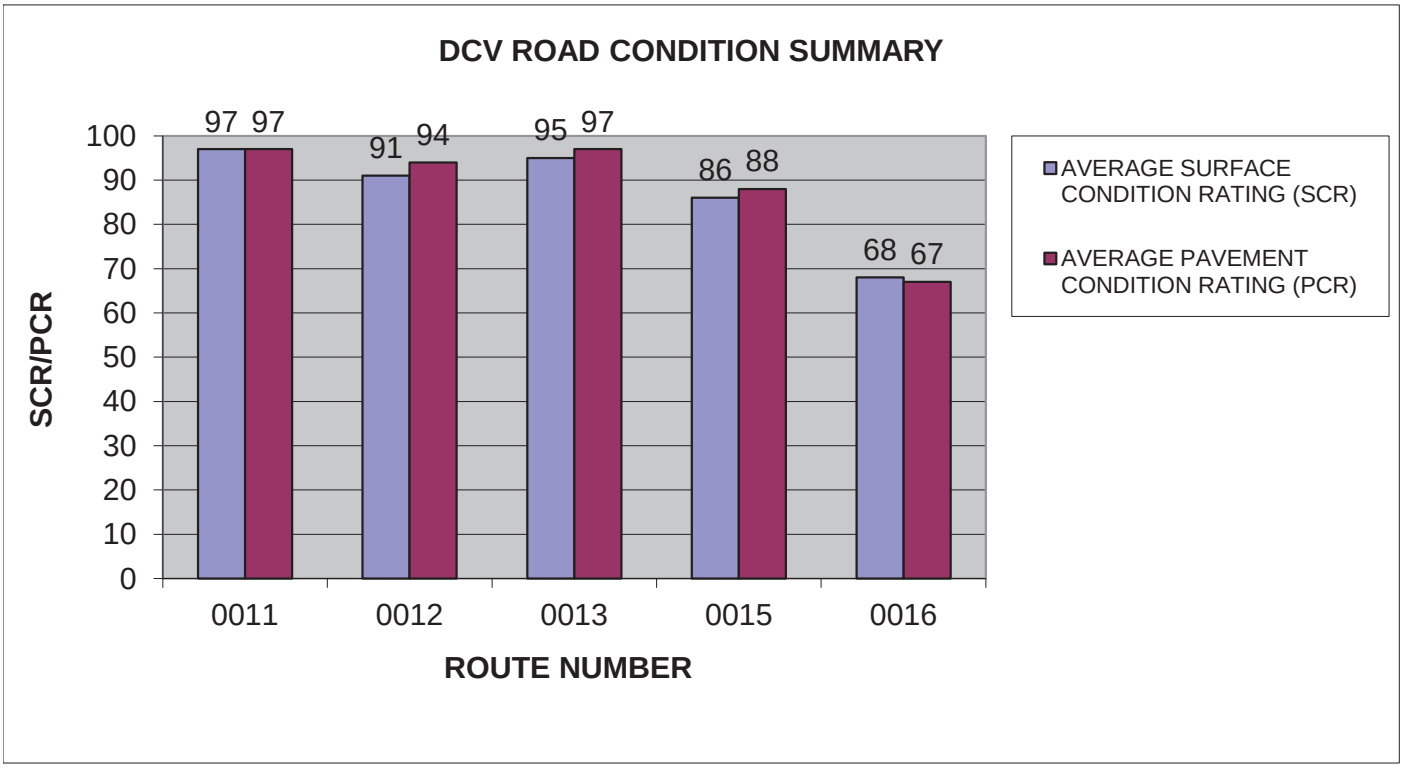
At this time, specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely on RIP data. Additionally, RIP produces a snapshot of conditions the year in which the data was collected. For further information or to obtain additional Pavement Management System's data from our Highway Pavement Management Application (HPMA) please contact the Eastern Federal Lands pavement team.



GUIS: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

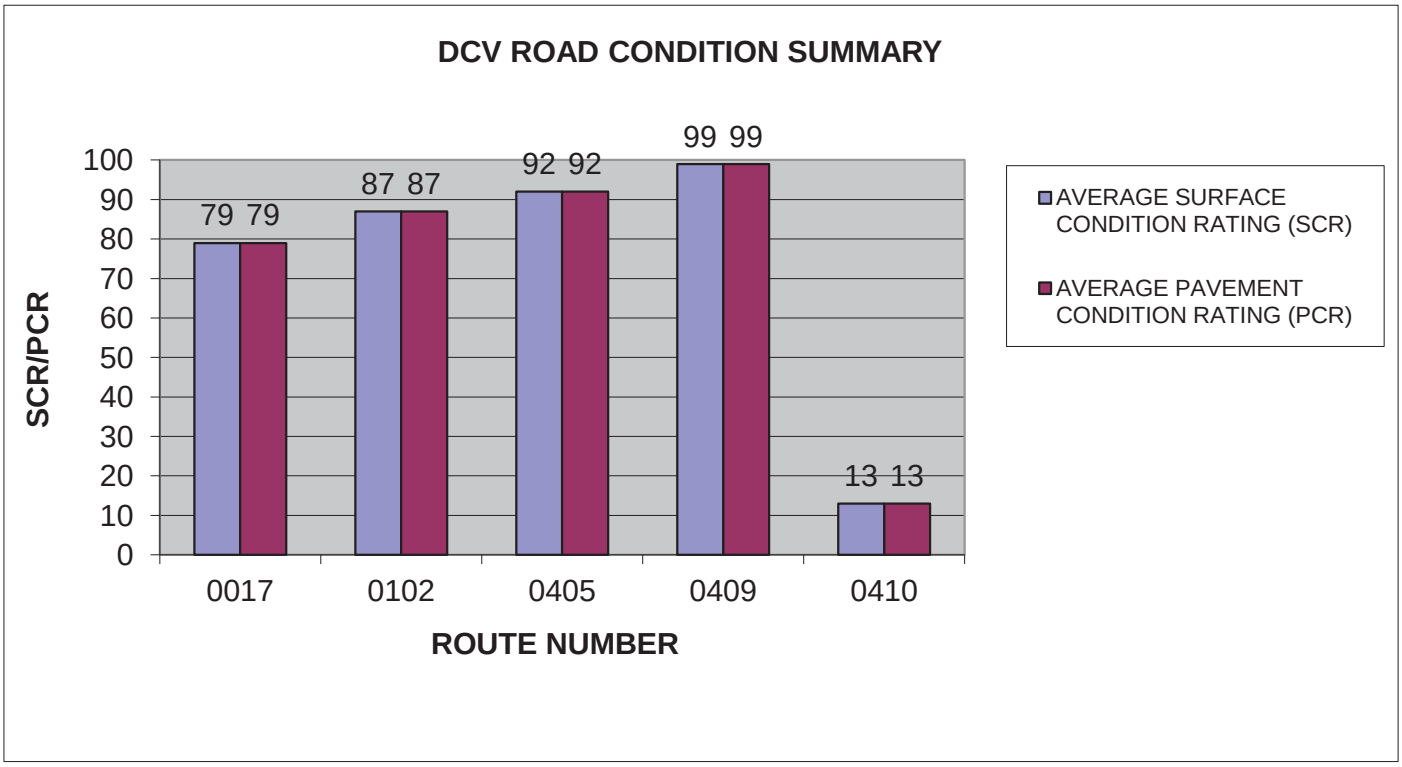
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0011	J. EARLE BOWDEN WAY / STATE ROUTE 399	1	7.29	ASPHALT	97	97
0012	FORT PICKENS ROAD	1	7.18	ASPHALT	91	94
0013	JOHNSON BEACH ROAD	1	2.48	ASPHALT	95	97
0015	PARK ROAD	1	2.17	ASPHALT	86	88
0016	ROBERT MCGEE ROAD	1	0.82	ASPHALT	68	67



GUIS: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

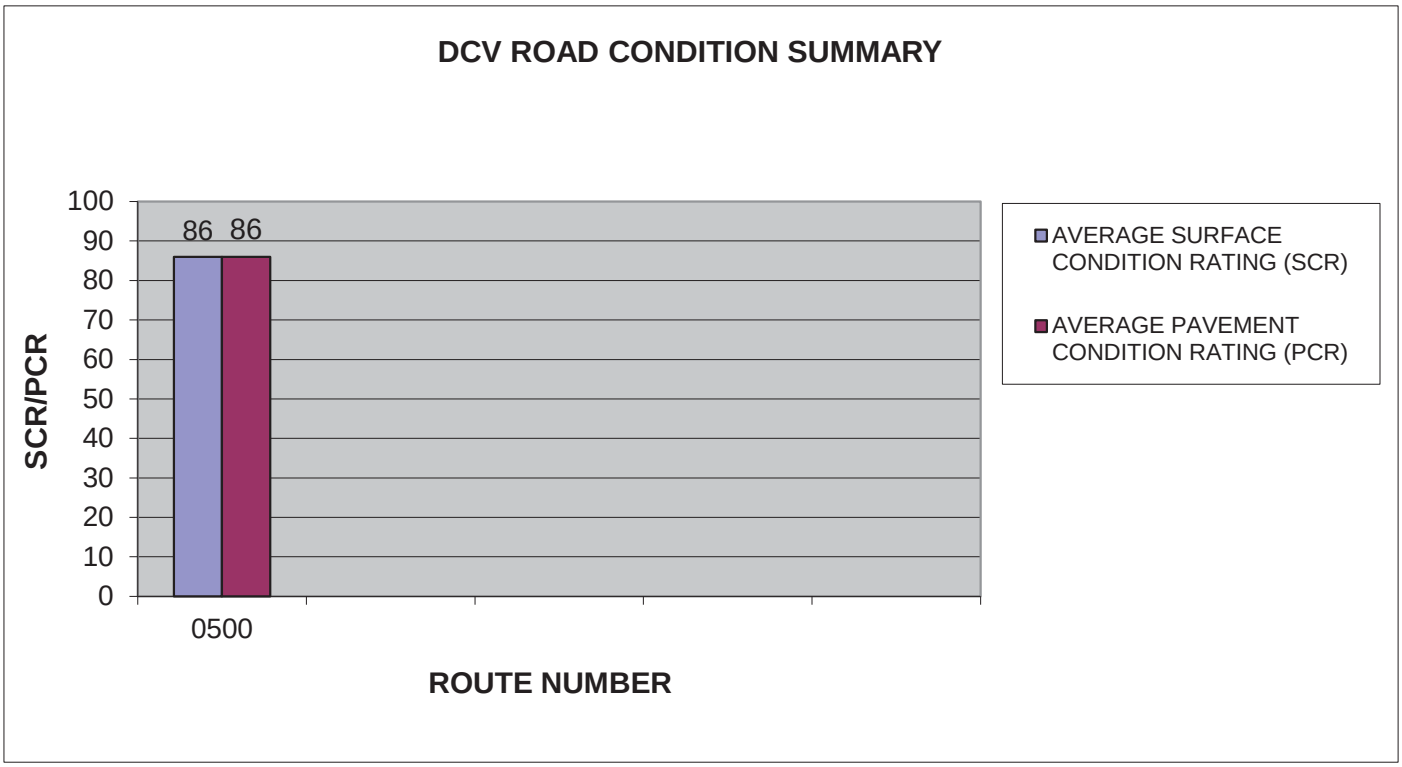
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0017	GOLLOTT ROAD	1	0.60	ASPHALT	79	79
0102	EAGLE POINT ROAD	1	0.06	ASPHALT	87	87
0405	VFW ROAD	2	0.09	ASPHALT	92	92
0409	CEDAR POINT CAMPUS ROAD	2	0.04	ASPHALT	99	99
0410	YATES HOUSE COMPOUND ROAD	6	0.08	ASPHALT	13	13



GUIS: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0500	FORT PICKENS LOOP ROAD	1	1.03	ASPHALT	86	86

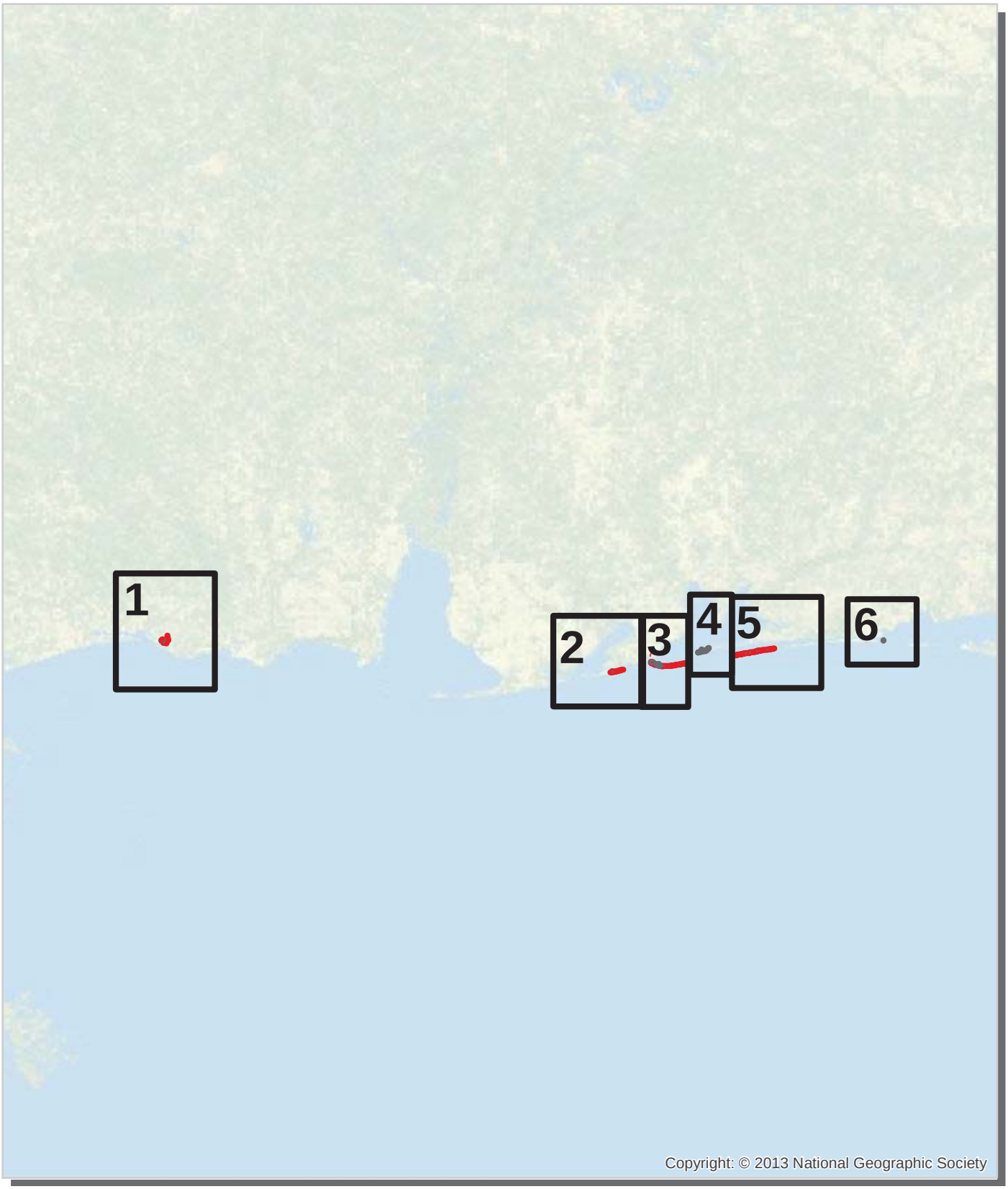


Section 4
Park Route Location Maps

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

Gulf Islands National Seashore
Route Location Map
Key Map



Cycle 5 Collected Routes

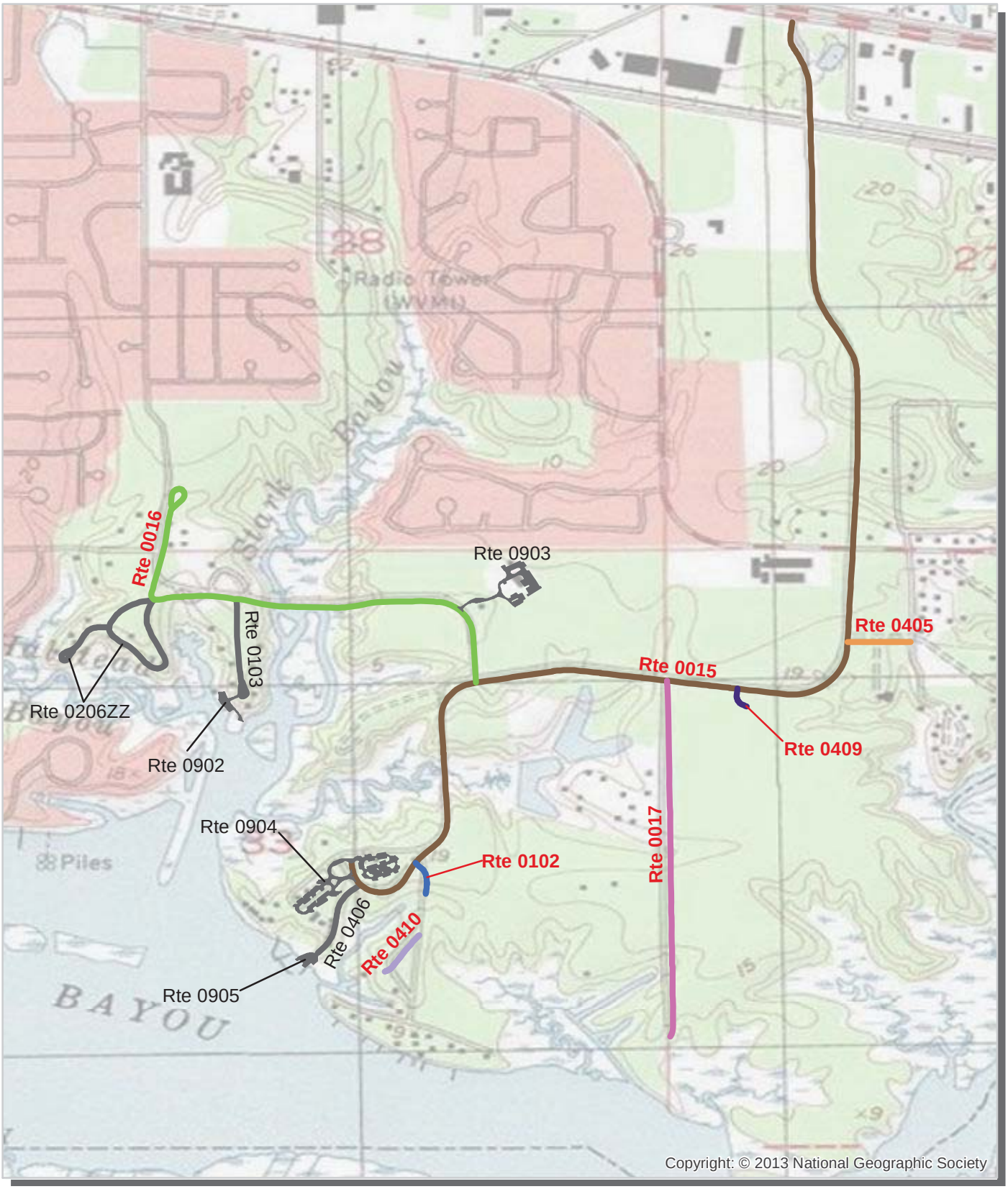
Routes Collected in Previous Cycle

30 15 0 30

Miles

N

Gulf Islands National Seashore
Route Location Map
Area 1



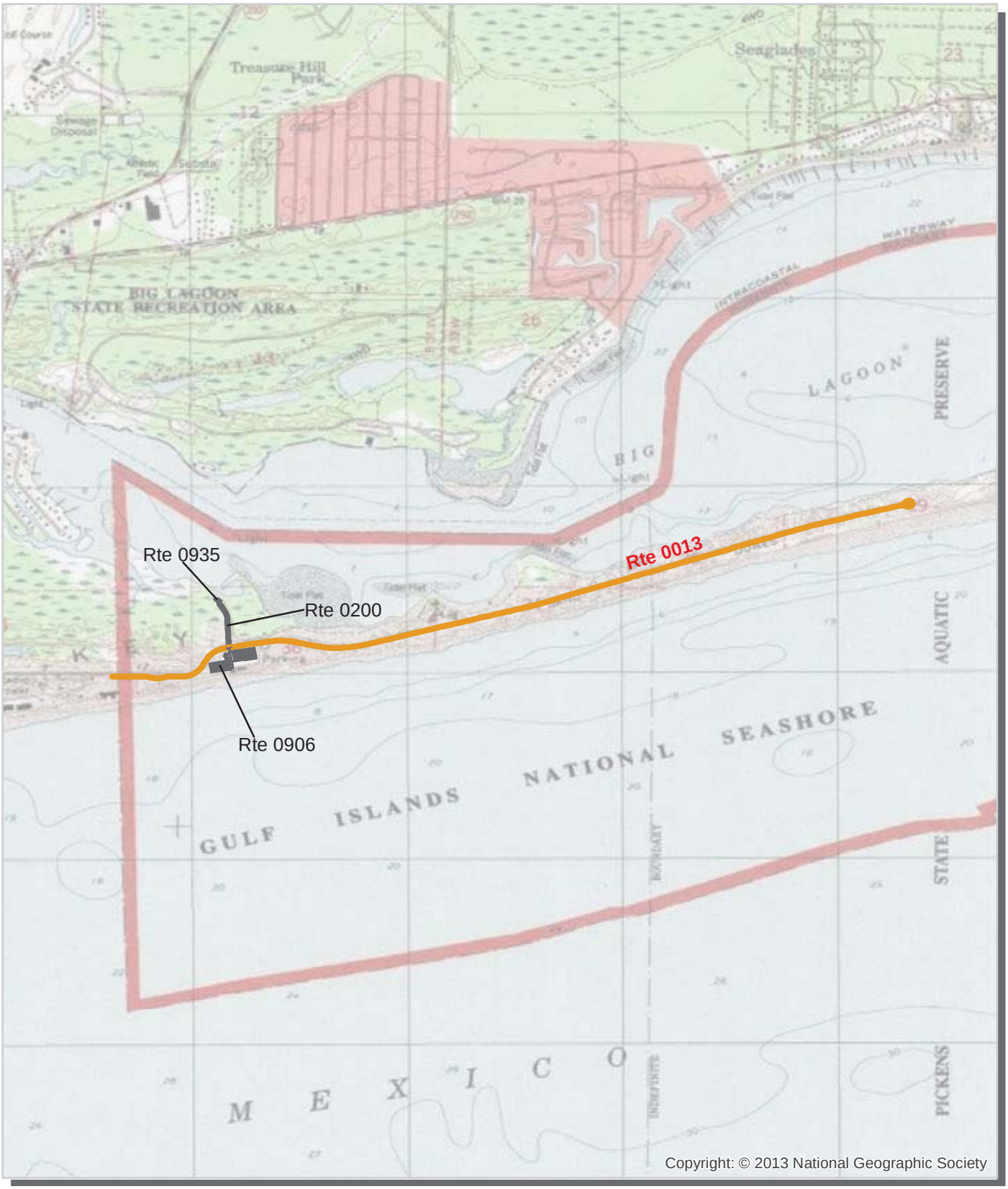
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

0.25 0.125 0 0.25 Miles

N

Gulf Islands National Seashore
Route Location Map
Area 2



Unique colors used to differentiate routes

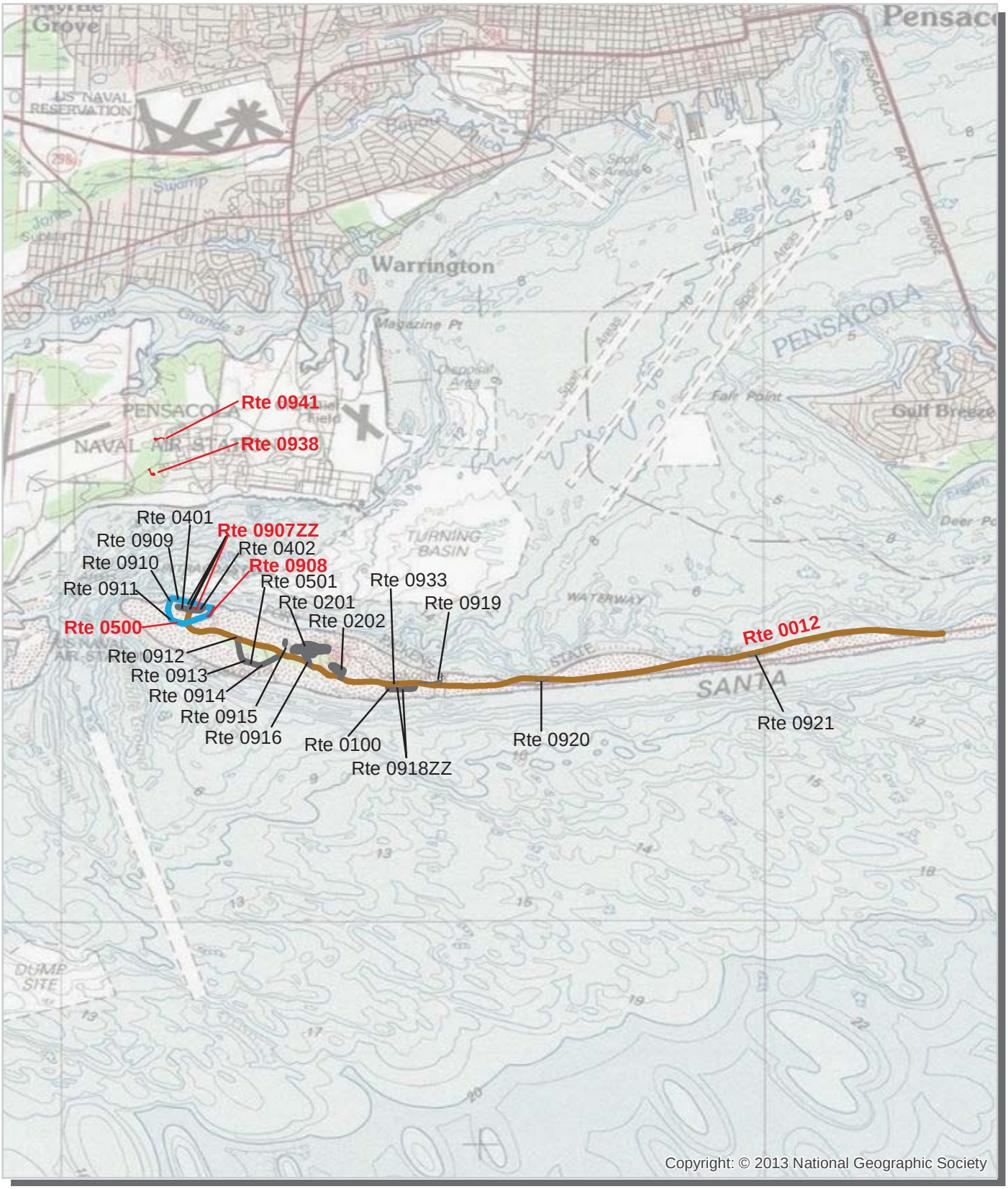
Routes Collected in Previous Cycle

0.5 0.25 0 0.5

Miles

N

Gulf Islands National Seashore
Route Location Map
Area 3



Unique colors used to differentiate routes

Routes Collected in Previous Cycle

1.5 0.75 0 1.5

Miles

N

Gulf Islands National Seashore
Route Location Map
Area 4

Unique colors used to differentiate routes

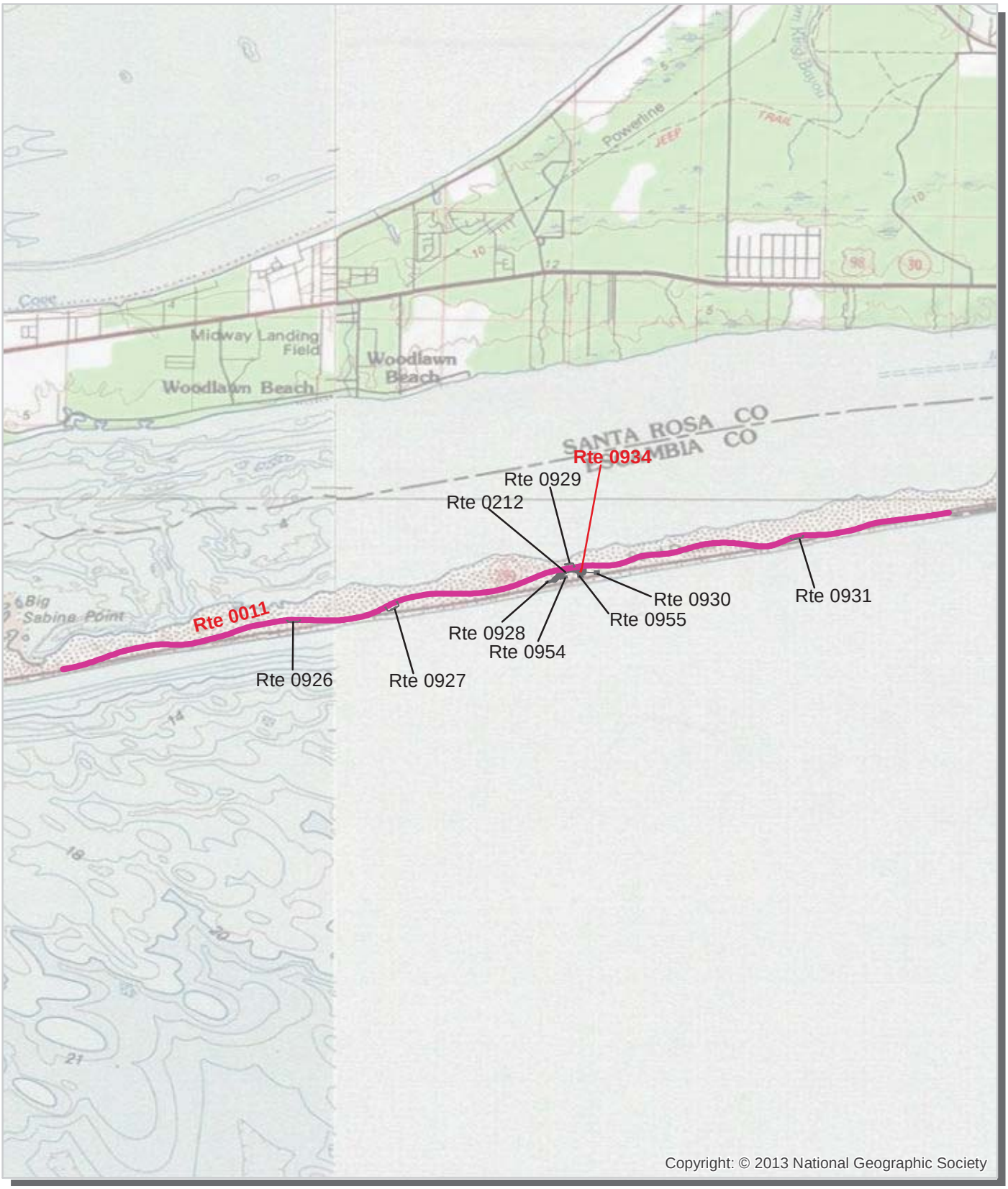
Routes Collected in Previous Cycle

0.4 0.2 0 0.4

Miles

N

Gulf Islands National Seashore
Route Location Map
Area 5



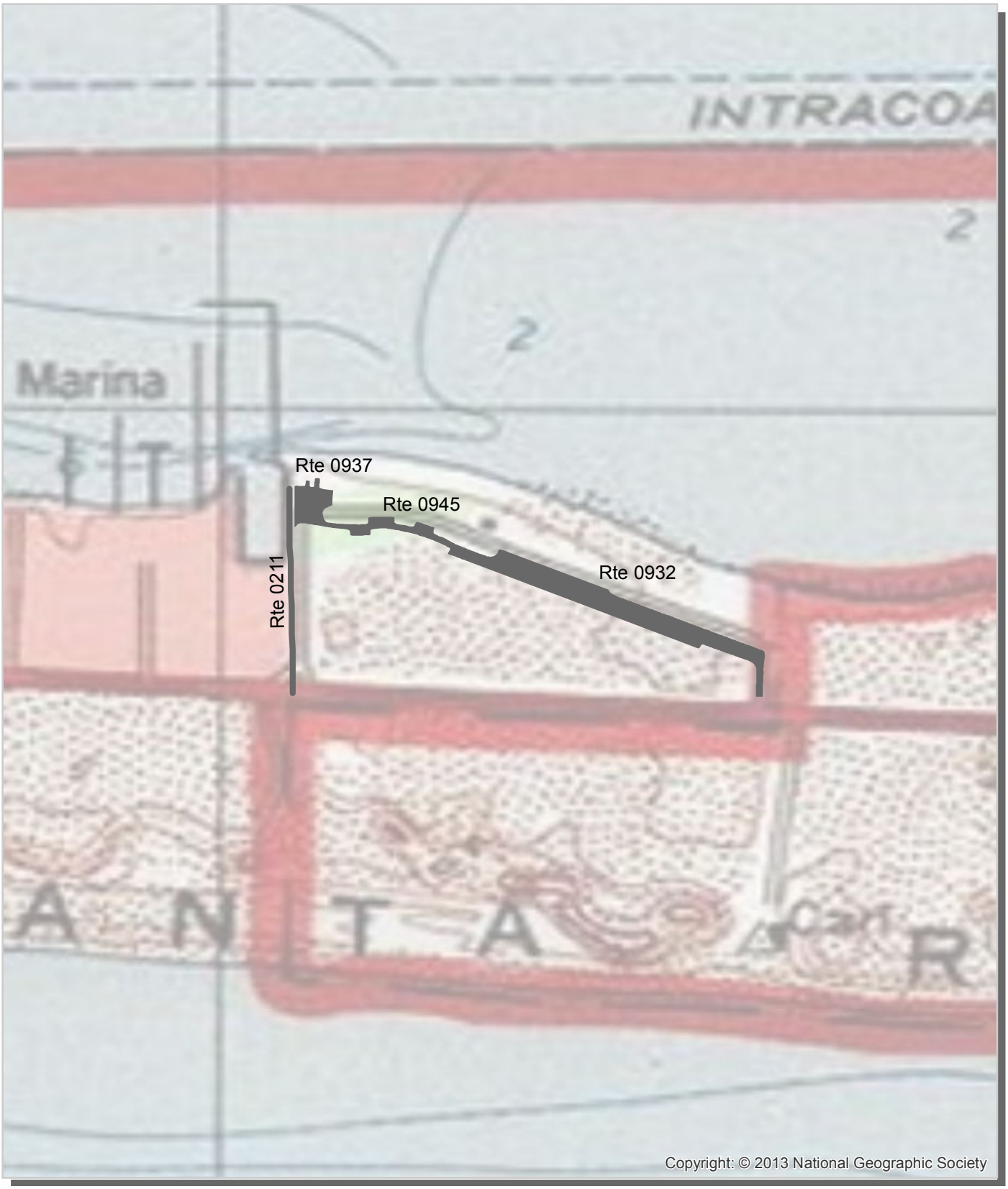
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

1 0.5 0 1 Miles

N

Gulf Islands National Seashore
Route Location Map
Area 6



Unique colors used to differentiate routes

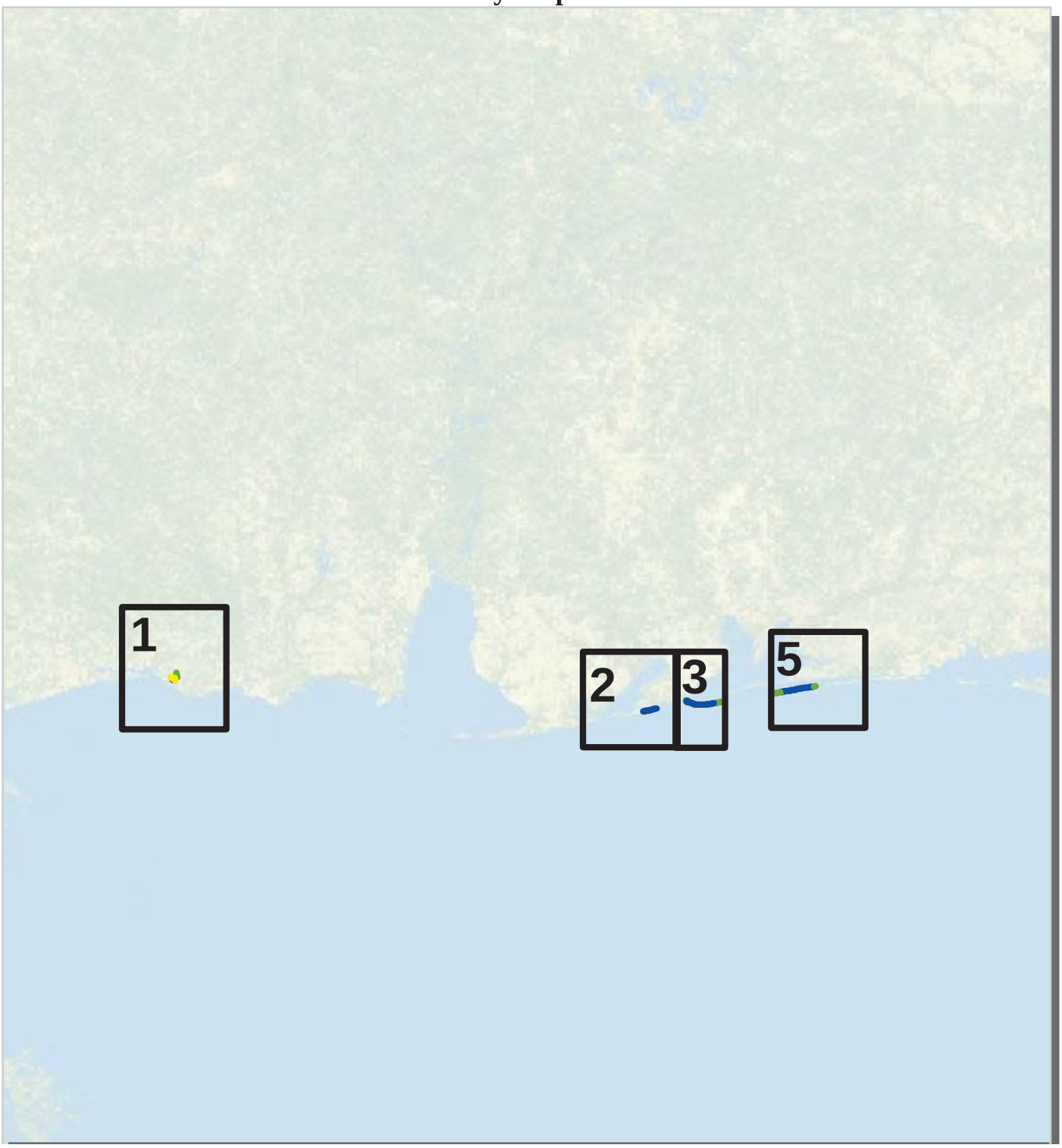
Routes Collected in Previous Cycle

0.1 0.05 0 0.1

Miles

N

Gulf Islands National Seashore
Route Condition Map
PCR - Mile by Mile
Key Map



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

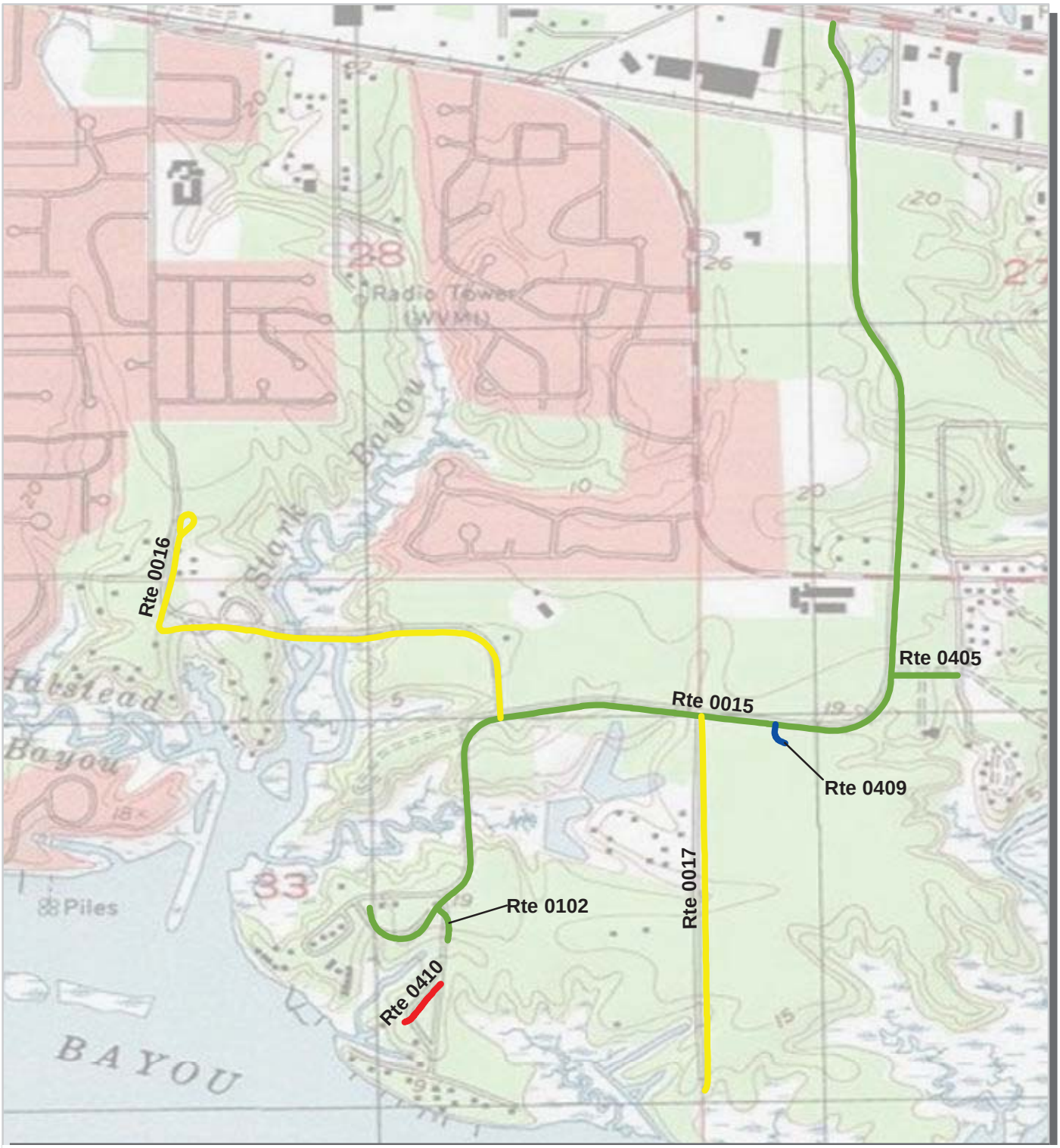
* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

Note: Only routes collected by the DCV in Cycle-5 are displayed.

30 15 0 30 Miles

N

Gulf Islands National Seashore
Route Condition Map
PCR - Mile by Mile
Area 1



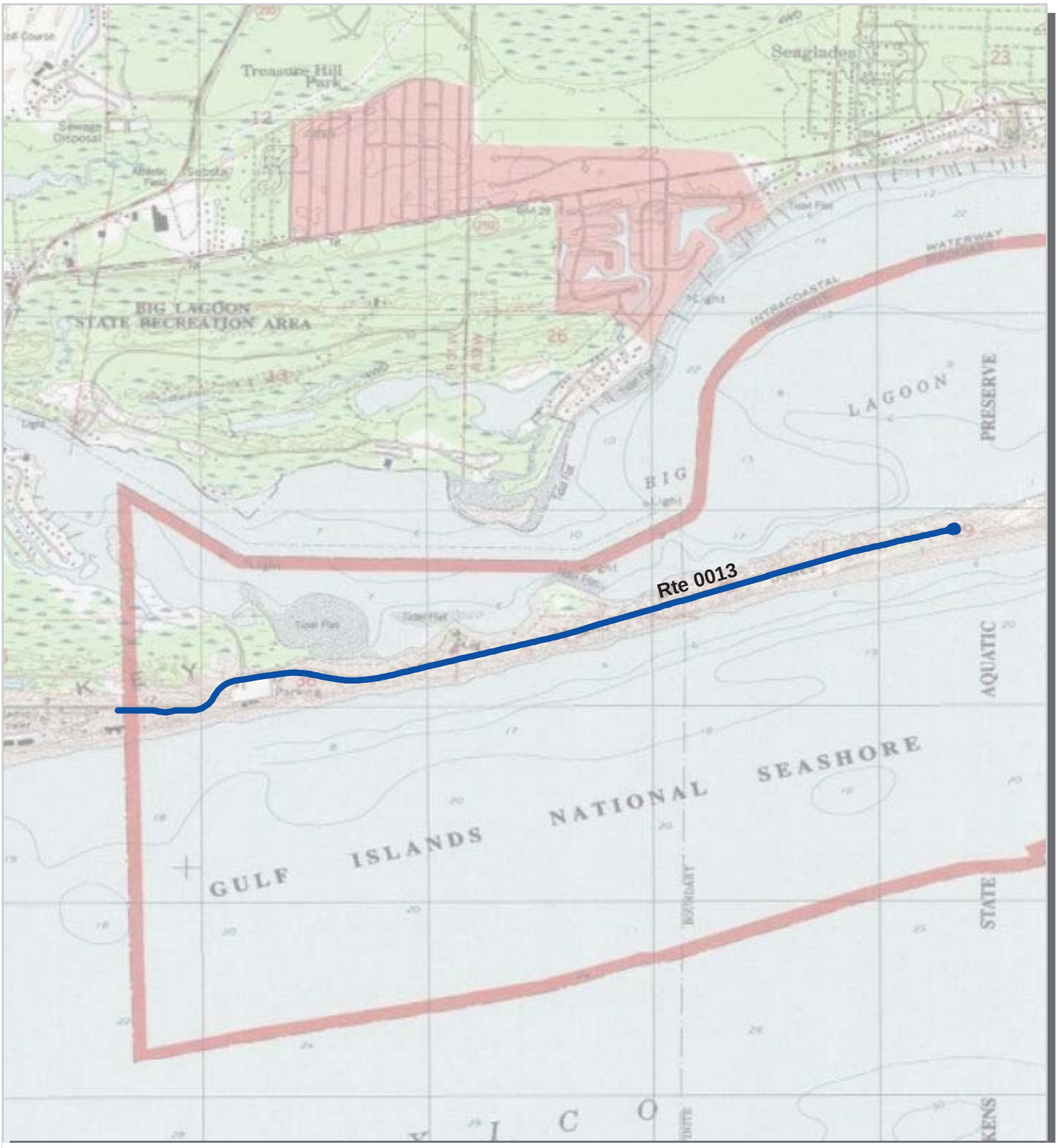
PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

0.25 0.125 0 0.25 Miles

N

Gulf Islands National Seashore
Route Condition Map
PCR - Mile by Mile
Area 2



PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

0.5 0.25 0 0.5 Miles

N

Gulf Islands National Seashore
Route Condition Map
PCR - Mile by Mile
Area 3

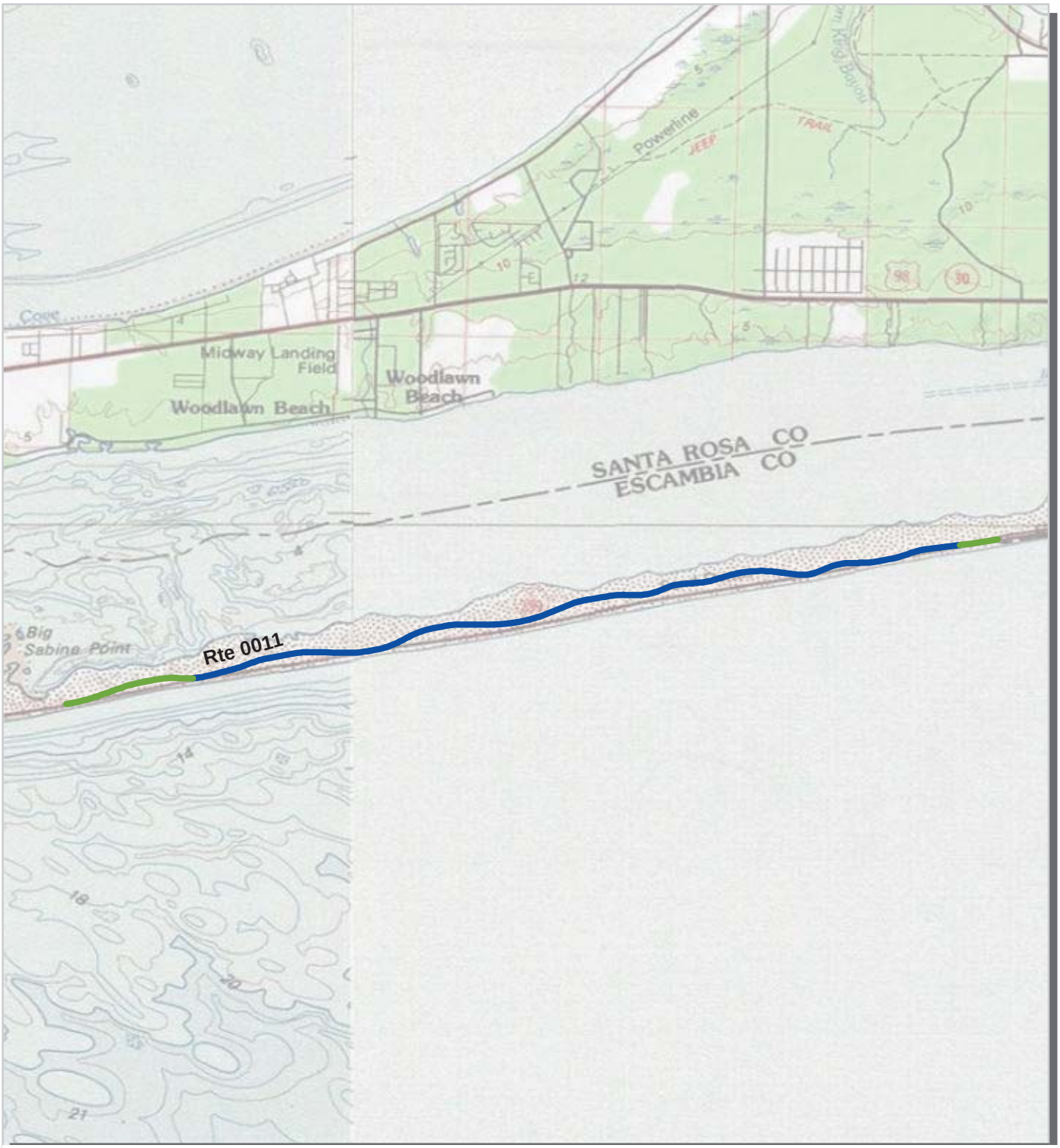
PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

1.5 0.75 0 1.5
Miles

N

Gulf Islands National Seashore
Route Condition Map
PCR - Mile by Mile
Area 5



PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

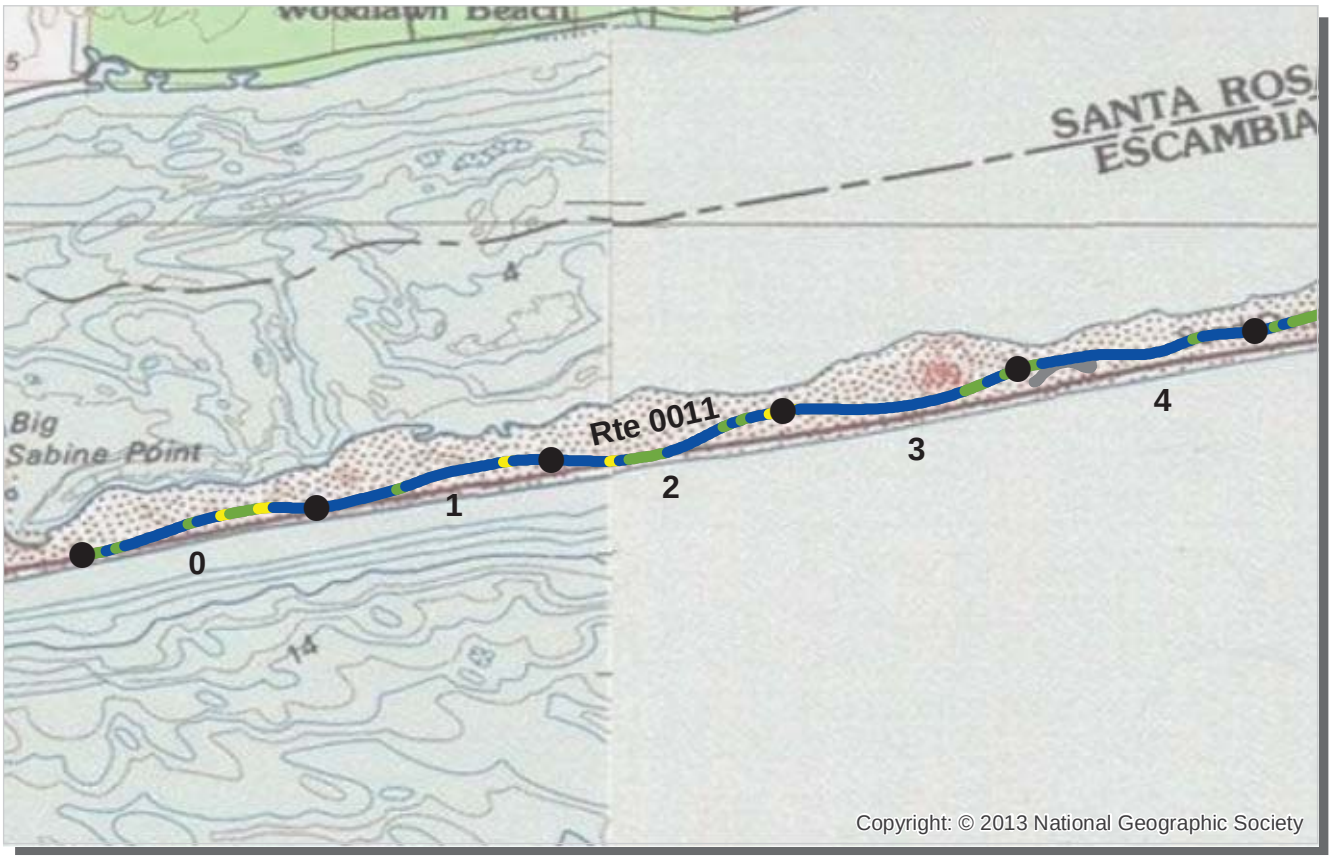
1 0.5 0 1 Miles

N

Section 5
Paved Route
Condition Rating Sheets

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0011 J. EARLE BOWDEN WAY / STATE ROUTE 399
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013
SOUTHEAST REGION **TOTAL LENGTH: 7.29 Miles**

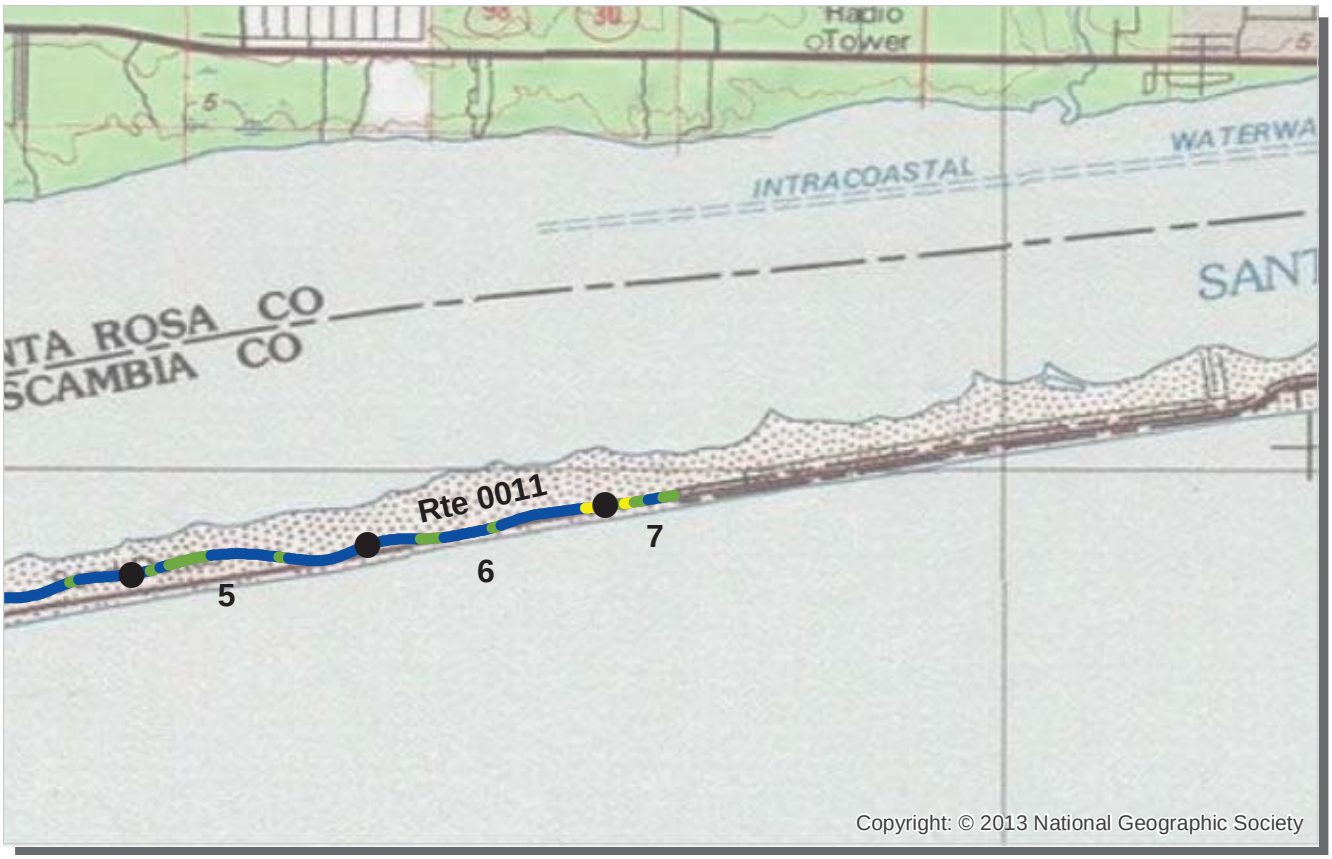
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	34	34	34	34	37
Lane Width (ft)	11	11	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	98	99	97	98	97
PCR (Pavement Condition Rating)	94	99	95	97	98
Distress Index Values					
Structural Crack Index	100	100	100	100	100
Transverse Cracking Index	99	99	100	99	100
Patching Index	100	100	100	100	100
Rutting Index	98	100	97	98	97
Roughness Condition Index (RCI)	88	100	93	96	100

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0011 J. EARLE BOWDEN WAY / STATE ROUTE 399

GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 7.29 Miles**

Section Number	5	6	7		
Section Length (mi)	1.00	1.00	0.29		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	34	33	33		
Lane Width (ft)	11	11	11		
Roadway Condition Information					
SCR (Surface Condition Rating)	97	97	93		
PCR (Pavement Condition Rating)	97	98	92		
Distress Index Values					
Structural Crack Index	100	97	93		
Transverse Cracking Index	100	100	100		
Patching Index	100	100	100		
Rutting Index	97	99	97		
Roughness Condition Index (RCI)	98	100	91		

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0012 FORT PICKENS ROAD

GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/18/2013

SOUTHEAST REGION **TOTAL LENGTH: 7.18 Miles**

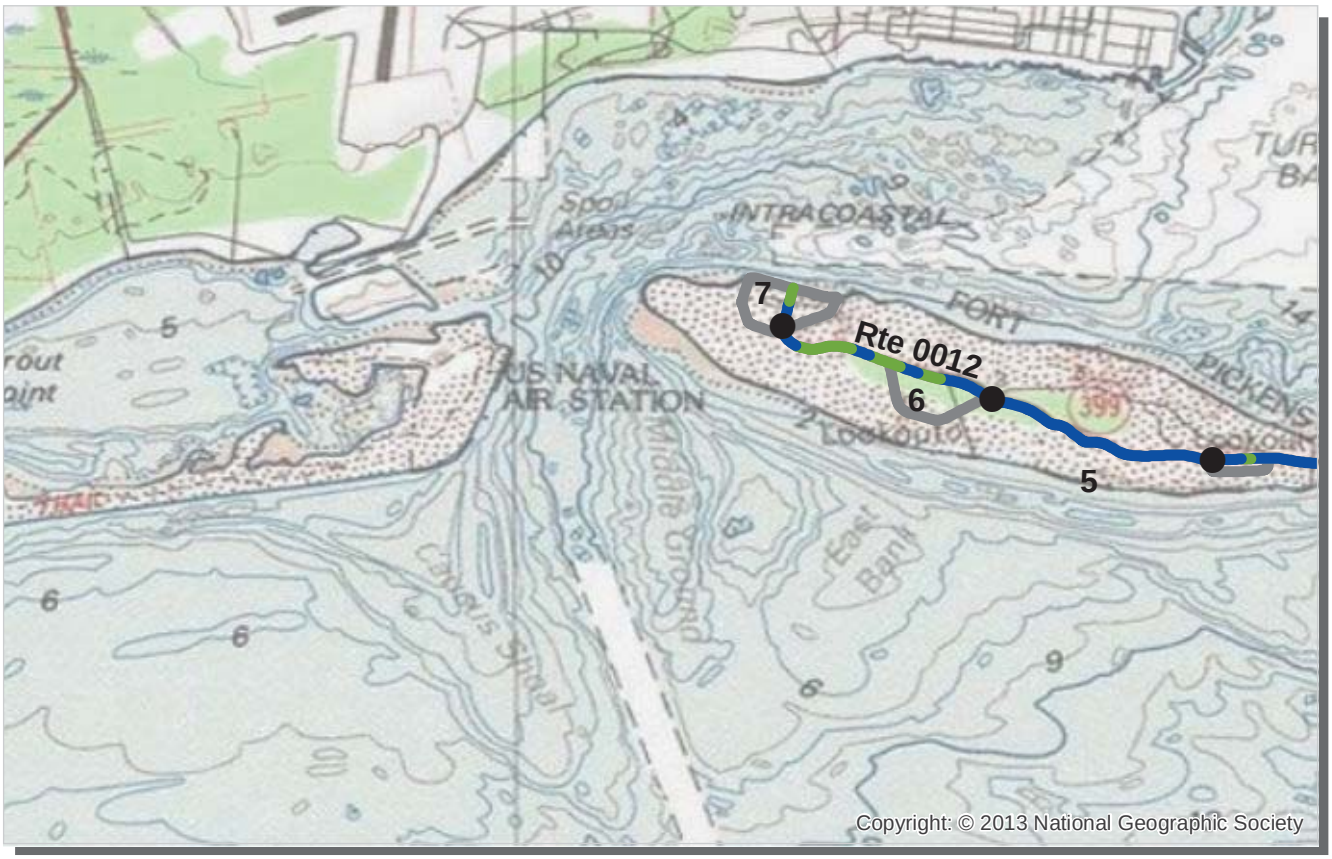
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	32	30	30	30	29
Lane Width (ft)	10	10	10	10	10
Roadway Condition Information					
SCR (Surface Condition Rating)	82	89	92	92	97
PCR (Pavement Condition Rating)	87	91	95	95	98
Distress Index Values					
Structural Crack Index	100	100	99	100	99
Transverse Cracking Index	100	100	100	100	97
Patching Index	82	93	99	100	100
Rutting Index	94	89	92	92	99
Roughness Condition Index (RCI)	94	95	100	99	100

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

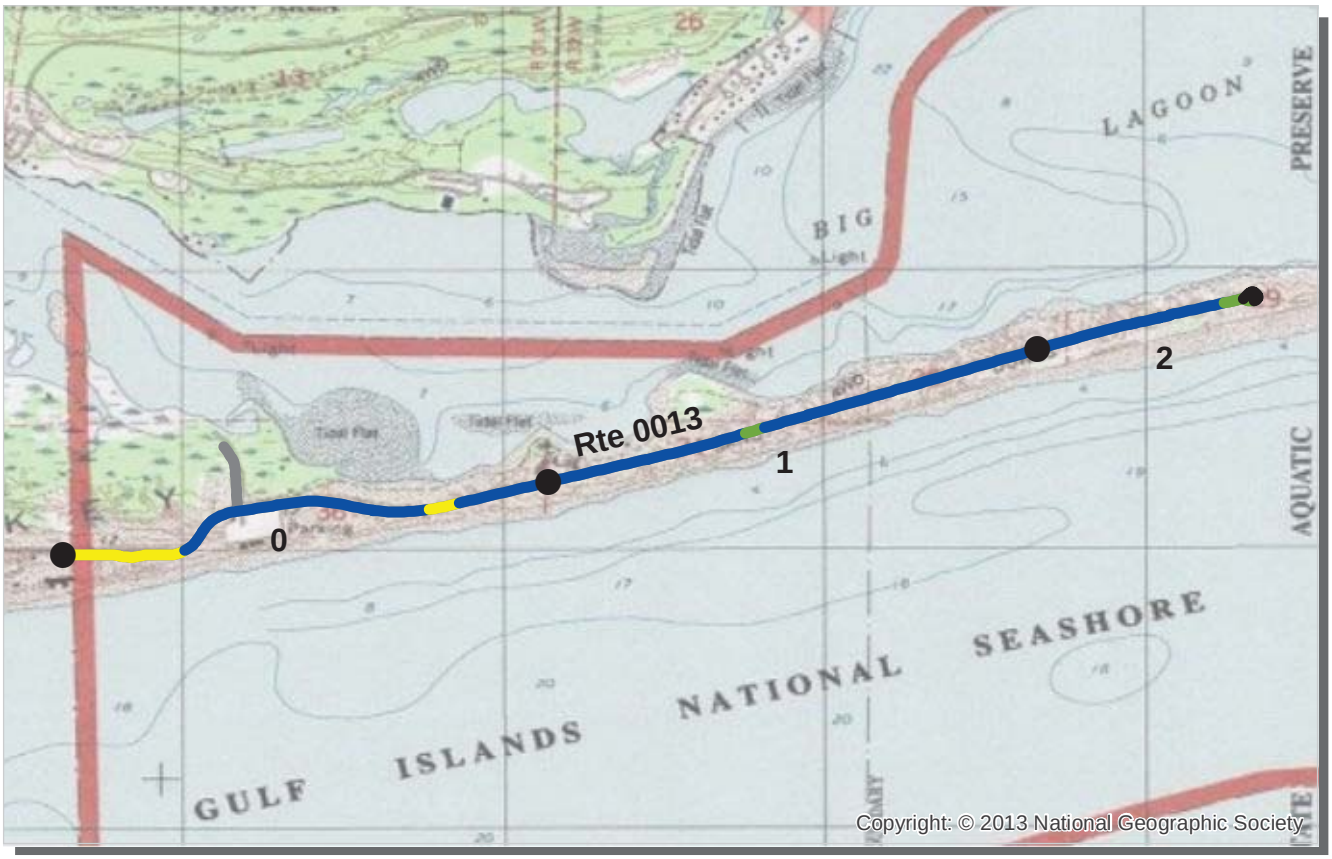
* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0012 FORT PICKENS ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/18/2013
SOUTHEAST REGION **TOTAL LENGTH: 7.18 Miles**

Section Number	5	6	7		
Section Length (mi)	1.00	1.00	0.18		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	20	20	21		
Lane Width (ft)	8	8	9		
Roadway Condition Information					
SCR (Surface Condition Rating)	96	92	92		
PCR (Pavement Condition Rating)	98	95	95		
Distress Index Values					
Structural Crack Index	100	99	99		
Transverse Cracking Index	96	92	92		
Patching Index	100	100	100		
Rutting Index	100	100	100		
Roughness Condition Index (RCI)	100	100	100		

NOTES:
Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
See Section 10 for explanation of SCR, PCR, & all Distress Index Values.
NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0013 JOHNSON BEACH ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 2.48 Miles**

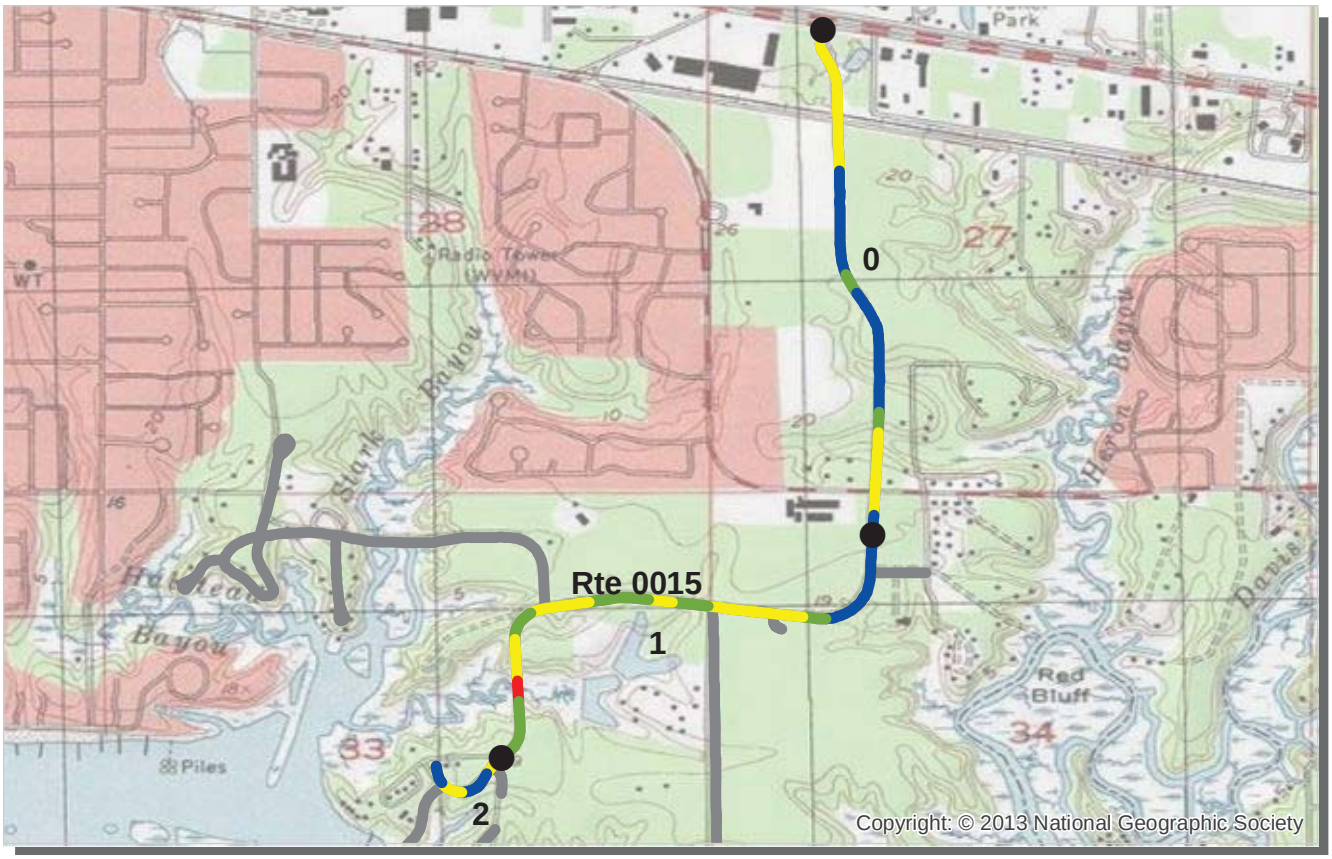
Section Number	0	1	2		
Section Length (mi)	1.00	1.00	0.48		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	24	24	23		
Lane Width (ft)	10	11	11		
Roadway Condition Information					
SCR (Surface Condition Rating)	92	99	94		
PCR (Pavement Condition Rating)	95	99	96		
Distress Index Values					
Structural Crack Index	100	100	100		
Transverse Cracking Index	92	99	100		
Patching Index	100	100	100		
Rutting Index	97	99	94		
Roughness Condition Index (RCI)	100	100	100		

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0015 PARK ROAD

GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 2.17 Miles**

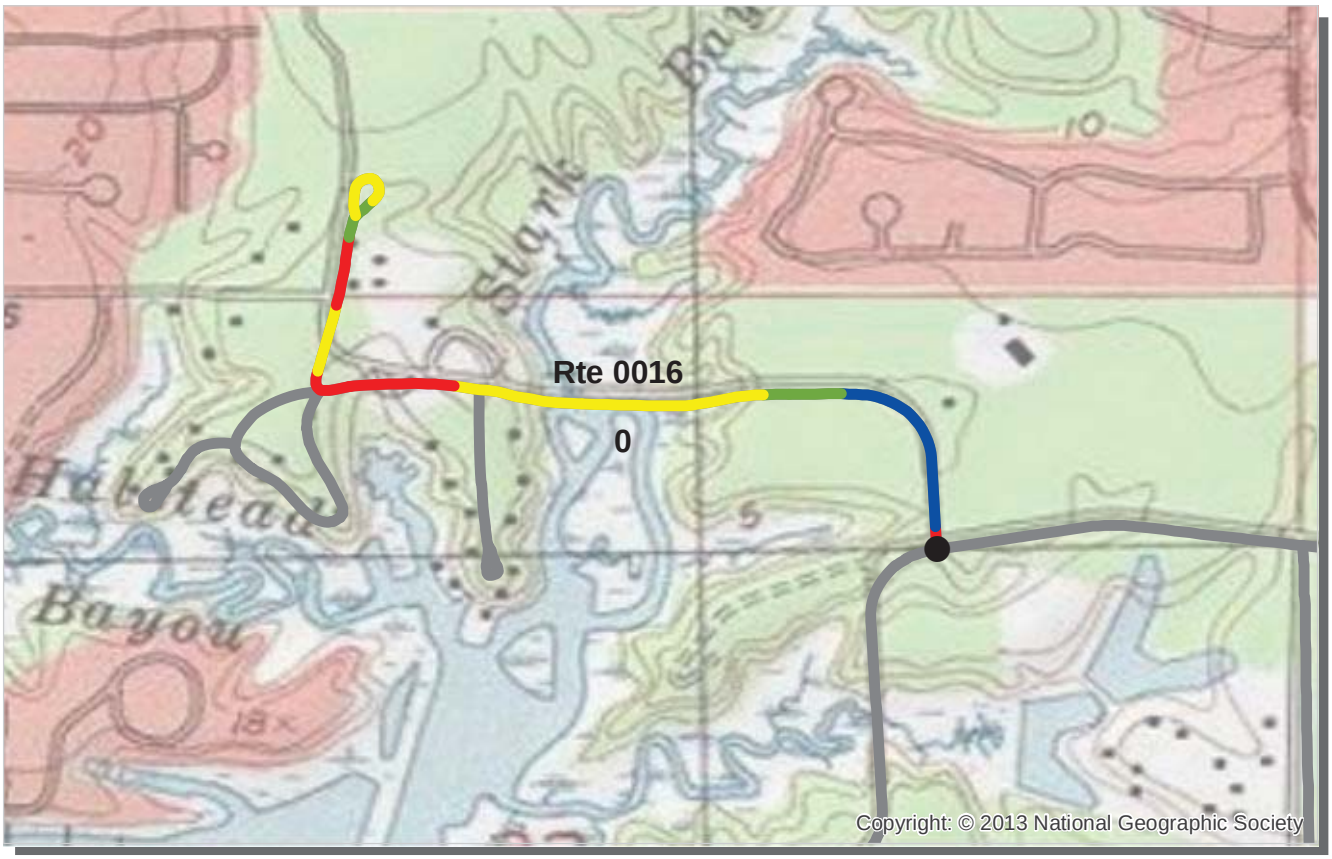
Section Number	0	1	2		
Section Length (mi)	1.00	1.00	0.17		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	26	23	22		
Lane Width (ft)	10	10	9		
Roadway Condition Information					
SCR (Surface Condition Rating)	87	83	96		
PCR (Pavement Condition Rating)	88	87	89		
Distress Index Values					
Structural Crack Index	87	90	99		
Transverse Cracking Index	93	83	96		
Patching Index	100	100	98		
Rutting Index	99	99	99		
Roughness Condition Index (RCI)	89	93	79		

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0016 ROBERT MCGEE ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 0.82 Miles**

Section Number	0				
Section Length (mi)	0.82				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	21				
Lane Width (ft)	9				
Roadway Condition Information					
SCR (Surface Condition Rating)	68				
PCR (Pavement Condition Rating)	67				
Distress Index Values					
Structural Crack Index	89				
Transverse Cracking Index	68				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	66				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0017 GOLLOTT ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013
SOUTHEAST REGION **TOTAL LENGTH: 0.60 Miles**

Section Number	0				
Section Length (mi)	0.60				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	13				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	79				
PCR (Pavement Condition Rating)	79				
Distress Index Values					
Structural Crack Index	79				
Transverse Cracking Index	98				
Patching Index	99				
Rutting Index	92				
Roughness Condition Index (RCI)	NC				

NOTES:
Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
See Section 10 for explanation of SCR, PCR, & all Distress Index Values.
NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0102 EAGLE POINT ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 0.06 Miles**

Section Number	0				
Section Length (mi)	0.06				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	17				
Lane Width (ft)	8				
Roadway Condition Information					
SCR (Surface Condition Rating)	87				
PCR (Pavement Condition Rating)	87				
Distress Index Values					
Structural Crack Index	87				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	93				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0405 VFW ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 0.09 Miles**

Section Number	0				
Section Length (mi)	0.09				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	9				
Roadway Condition Information					
SCR (Surface Condition Rating)	92				
PCR (Pavement Condition Rating)	92				
Distress Index Values					
Structural Crack Index	98				
Transverse Cracking Index	98				
Patching Index	92				
Rutting Index	95				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0409 CEDAR POINT CAMPUS ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013

SOUTHEAST REGION **TOTAL LENGTH: 0.04 Miles**

Section Number	0				
Section Length (mi)	0.04				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0410 YATES HOUSE COMPOUND ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/17/2013
SOUTHEAST REGION **TOTAL LENGTH: 0.08 Miles**

Section Number	0				
Section Length (mi)	0.08				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	13				
Lane Width (ft)	13				
Roadway Condition Information					
SCR (Surface Condition Rating)	13				
PCR (Pavement Condition Rating)	13				
Distress Index Values					
Structural Crack Index	13				
Transverse Cracking Index	13				
Patching Index	93				
Rutting Index	84				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0500 FORT PICKENS LOOP ROAD
GUIS : GULF ISLANDS NATIONAL SEASHORE

COLLECTED: 7/18/2013
SOUTHEAST REGION **TOTAL LENGTH: 1.03 Miles**

Section Number	0	1			
Section Length (mi)	1.00	0.03			
Cross Section Information					
Number of Lanes	1	1			
Paved Width (ft)	17	14			
Lane Width (ft)	13	14			
Roadway Condition Information					
SCR (Surface Condition Rating)	86	91			
PCR (Pavement Condition Rating)	86	91			
Distress Index Values					
Structural Crack Index	96	100			
Transverse Cracking Index	86	91			
Patching Index	100	100			
Rutting Index	99	100			
Roughness Condition Index (RCI)	NC	NC			

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

Section 6
Manually Rated Paved Route Condition Rating Sheets

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

MANUALLY RATED ROUTE CONDITION RATING SHEETS

This park is classified as a Large Park. Therefore, in Cycle 5, no manually rated routes were collected unless the route was modified or previously uncollected by RIP.

Section 7
Parking Area
Condition Rating Sheets

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

GULF ISLANDS NATIONAL SEASHORE

Route 0907ZZ

FORT PICKENS DISTRICT PARKING LOTS

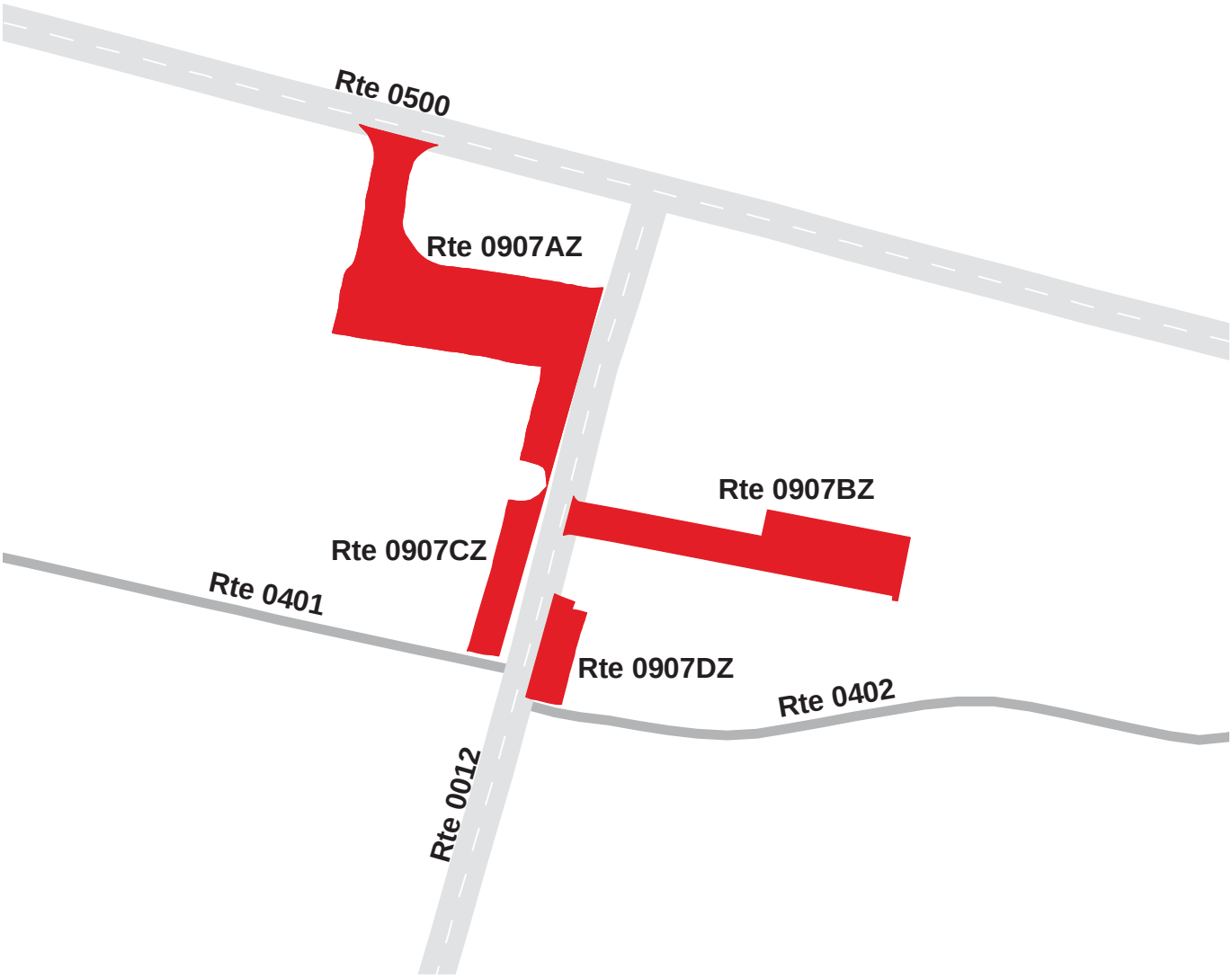
FROM ROUTE 0012 (FORT PICKENS ROAD) ON LEFT AND RIGHT TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0907ZZ	PUBLIC	11/29/2012	24,419	0.42	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
N/A	N/A	N/A	N/A	N/A	SUMMARY/N/A

* Lane miles are based on 11' lane widths

NOTE: Subcomponent route 0907BZ was the only route collected for summary route 0907ZZ during Cycle 5.



GULF ISLANDS NATIONAL SEASHORE

Route 0907BZ

FORT PICKENS DISTRICT PARKING B

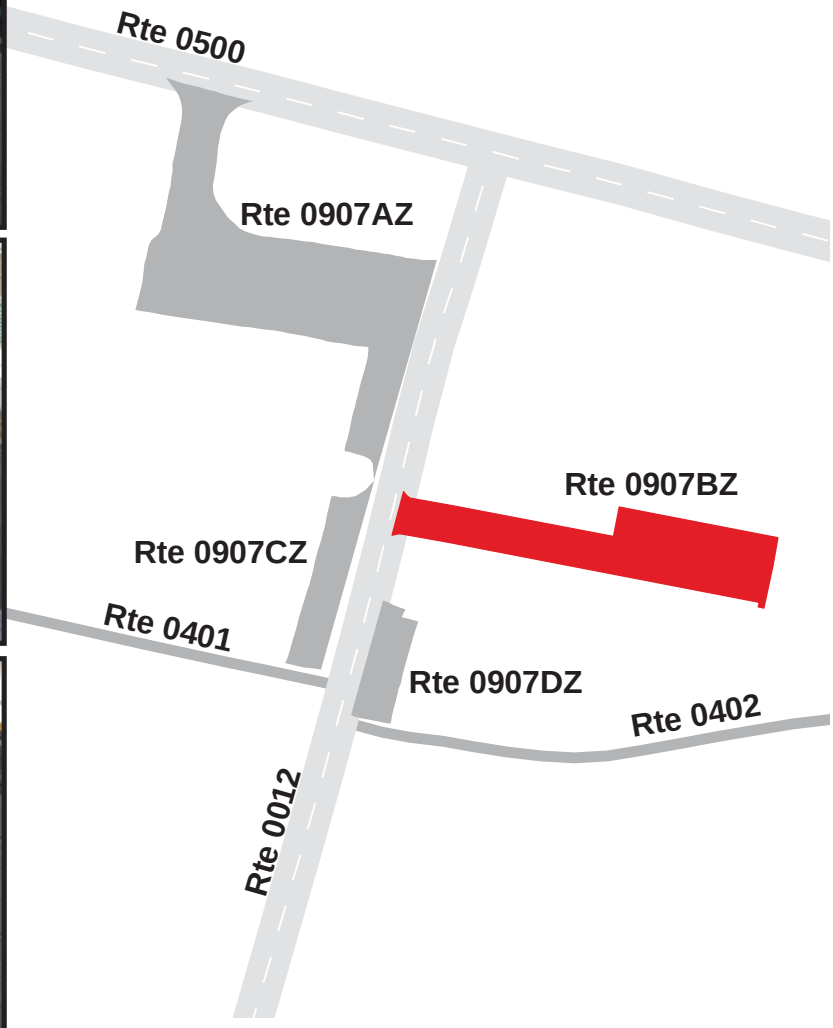
FROM ROUTE 0012 (FORT PICKENS ROAD)

TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0907BZ	PUBLIC	11/29/2012	6,873	0.12	CO
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



270 135 0 270 Feet

N

GULF ISLANDS NATIONAL SEASHORE

Route 0908

FORT PICKENS PARKING

ADJACENT TO ROUTE 0500 (FORT PICKENS LOOP ROAD) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0908	PUBLIC	11/29/2012	40,515	0.70	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths

360 180 0 360 Feet

N

GULF ISLANDS NATIONAL SEASHORE

Route 0934

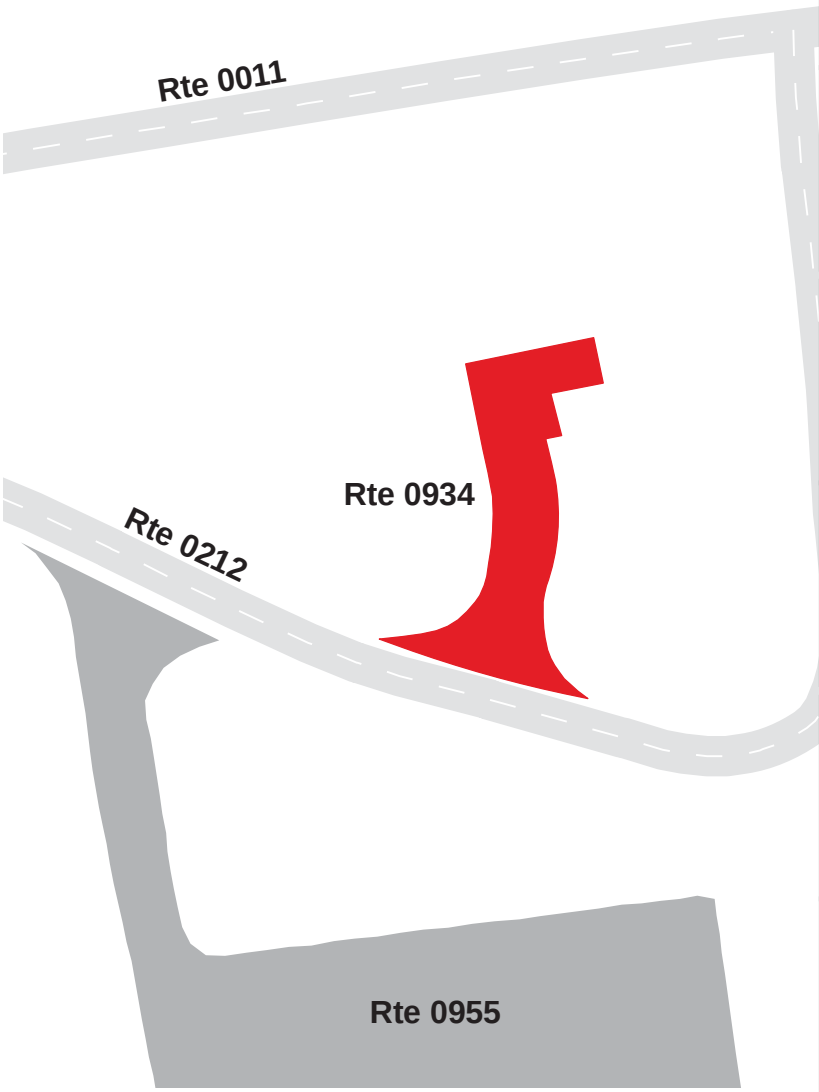
OPAL BEACH COMPLEX PARKING

FROM ROUTE 0212 (OPAL BEACH ROAD)

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0934	NONPUBLIC	11/30/2012	4,594	0.08	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



180 90 0 180 Feet

GULF ISLANDS NATIONAL SEASHORE

Route 0938

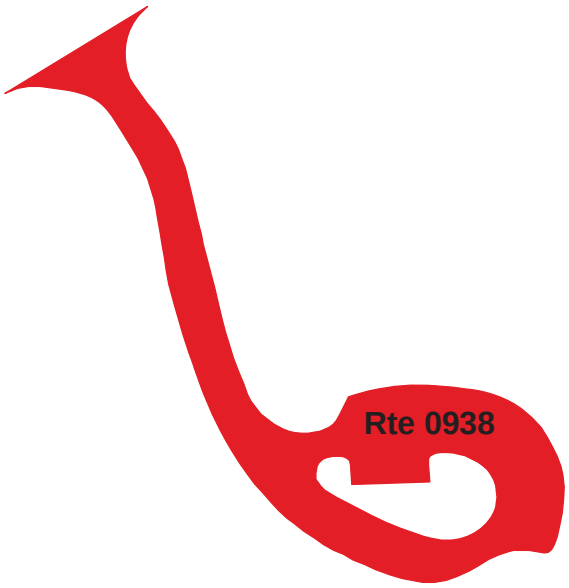
FORT BARRANCAS PARKING

FROM TAYLOR ROAD

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0938	PUBLIC	11/29/2012	20,384	0.35	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
1	0	0	CONCRETE CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



270 135 0 270

Feet

GULF ISLANDS NATIONAL SEASHORE

Route 0941

ADVANCE REDOUBT PARKING

FROM TAYLOR ROAD

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0941	PUBLIC	11/29/2012	18,064	0.31	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	CONCRETE CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths

360 180 0 360

Feet

N

Section 8
Route Maintenance Features Summaries

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

GUIS: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were NOT marked by NPS in Cycle 5 along new or re-aligned DCV driven routes.

FEATURE	ROUTE 0102 EAGLE POINT ROAD	ROUTE 0409 CEDAR POINT CAMPUS ROAD	ROUTE 0410 YATES HOUSE COMPOUND ROAD		UNIT
BRIDGE	0	0	0		EACH
CATTLE GUARD	0	0	0		EACH
CULVERT	0	0	0		EACH
CURB	0	0	0		LINEAR FEET
DROP INLET	0	0	0		EACH
GATE	0	0	1		EACH
GUARD/GUIDE RAIL	0	0	0		LINEAR FEET
CABLE	0	0	0		LINEAR FEET
NON-CABLE	0	0	0		LINEAR FEET
GUARD/GUIDE WALL	0	0	0		LINEAR FEET
BOLLARD	0	0	0		LINEAR FEET
TEMPORARY BARRIER	0	0	0		LINEAR FEET
NON TEMP/BOLLARD	0	0	0		LINEAR FEET
INTERSECTION	3	3	3		EACH
LOW WATER CROSSING	0	0	0		EACH
LOW WATER CROSSING	0	0	0		LINEAR FEET
MILE MARKER	0	0	0		EACH
OVERPASS	0	0	0		EACH
PARK BOUNDARY	1	1	0		EACH
PAVED DITCH	0	0	0		LINEAR FEET
PULLOUT	0	0	1		EACH
PULLOUT	0	0	48		LINEAR FEET
RAILROAD CROSSING	0	0	0		EACH
RETAINING WALL	0	0	0		EACH
RETAINING WALL	0	0	0		LINEAR FEET
SIGN	3	6	0		EACH
STATE BOUNDARY	0	0	0		EACH
TRAFFIC LIGHT	0	0	0		EACH
TUNNEL	0	0	0		EACH
TUNNEL	0	0	0		LINEAR FEET

STRUCTURE LIST

This park is classified as a large park. Therefore, in Cycle 5, BIP-Structures were inventoried only if they were located along routes that were modified or previously uncollected by RIP, so this report does not provide an all-inclusive listing of all BIP-Structures in the park.

Section 9
Route Maintenance Features
Road Logs

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

GUIS: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0102: EAGLE POINT ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on any new or re-aligned DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0015 (PARK ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0015 (PARK ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0015 (PARK ROAD)
0.005	0.005	SIGN	LEFT	GUIDE, EAGLE POINT
0.005	0.005	SIGN	LEFT	GUIDE, PARK
0.005	0.005	SIGN	LEFT	REGULATORY, STOP
0.055	0.055	INTERSECTION	N/A	PAVED ROUTE (EAGLE POINT ROAD / NON NPS)
0.055	0.055	PARK BOUNDARY	N/A	N/A
0.055	0.055	ROUTE END	N/A	TO SOUTH PARK BOUNDARY (PAVEMENT CHANGE)

GUIS: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0409: CEDAR POINT CAMPUS ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on any new or re-aligned DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0015 (PARK ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0015 (PARK ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0015 (PARK ROAD)
0.005	0.005	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.005	0.005	SIGN	LEFT	GUIDE, PARK
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.008	0.008	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.020	0.020	SIGN	RIGHT	GUIDE, GULF COAST RESEARCH LABORATORY CEDAR POINT SITE
0.034	0.034	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.037	0.037	INTERSECTION	N/A	PAVED ROUTE (CEDAR POINT CAMPUS ROAD / NON NPS)
0.037	0.037	PARK BOUNDARY	N/A	N/A
0.037	0.037	ROUTE END	N/A	TO PARK BOUNDARY

GUIS: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0410: YATES HOUSE COMPOUND ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on any new or re-aligned DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM PAVED ROUTE (EAGLE POINT ROAD / NON NPS)
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (EAGLE POINT ROAD / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (EAGLE POINT ROAD / NON NPS)
0.010	0.010	GATE	N/A	N/A
0.064	0.073	PULLOUT	LEFT	N/A
0.080	0.080	INTERSECTION	N/A	TO STORAGE AREA
0.080	0.080	ROUTE END	N/A	TO STORAGE AREA

Section 10
Appendix

Gulf Islands National Seashore

Federal Lands Highway
Road Inventory Program

Explanation of Changes to the RIP Index Equations and Determination of PCR

In 2005, the FHWA began implementing the use of a Pavement Management System to assist the National Park Service in prioritizing Pavement Maintenance and Rehabilitation activities. The PMS used by FHWA is the Highway Pavement Management Application (HPMA) and this software has the ability to store inventory and condition data from RIP and forecast future performance using prediction models. Outputs include performance and condition reports at the National, Region, Park, or Route level. A regional prioritized list and optimization have been produced for most regions and the Federal Highway Deferred Maintenance is calculated via the HPMA as well.

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions in relation to the distresses and indexes that comprise the Pavement Condition Rating (PCR), an extensive study was completed throughout 2010 that resulted in changes to the Road Inventory Program condition reporting method and specifically, the calculation of PCR. It was determined that a better representation of PCR could be achieved by modifying the relative impact certain distresses would have on the overall rating.

Through the use of HPMA data, it was noted that false failure indicators existed with the existing PCR model, and that it would be necessary to reduce their impact. The distresses affected in this way were Rutting and Roughness. Conversely, experience showed that roadways with extensive cracking present were often shown to have a high PCR. Therefore, the crack index models were adjusted to be more sensitive to changes in crack severity or quantity. It was also determined that these issues were not due to a problem with data acquisition (i.e. the RIP "van"), but with the way the collected data was processed. The final change was to provide guidance on when to use the Roughness Condition Index (RCI) in the PCR calculation. Roughness data is of little value to determining overall condition on routes that, due to their length or geometrics, have lower vehicle operating speeds. Therefore, in Cycle 5, only routes that have lengths of one half mile or greater and posted speed limits of 25 mph or greater will have RCI reported and included in the PCR calculations.

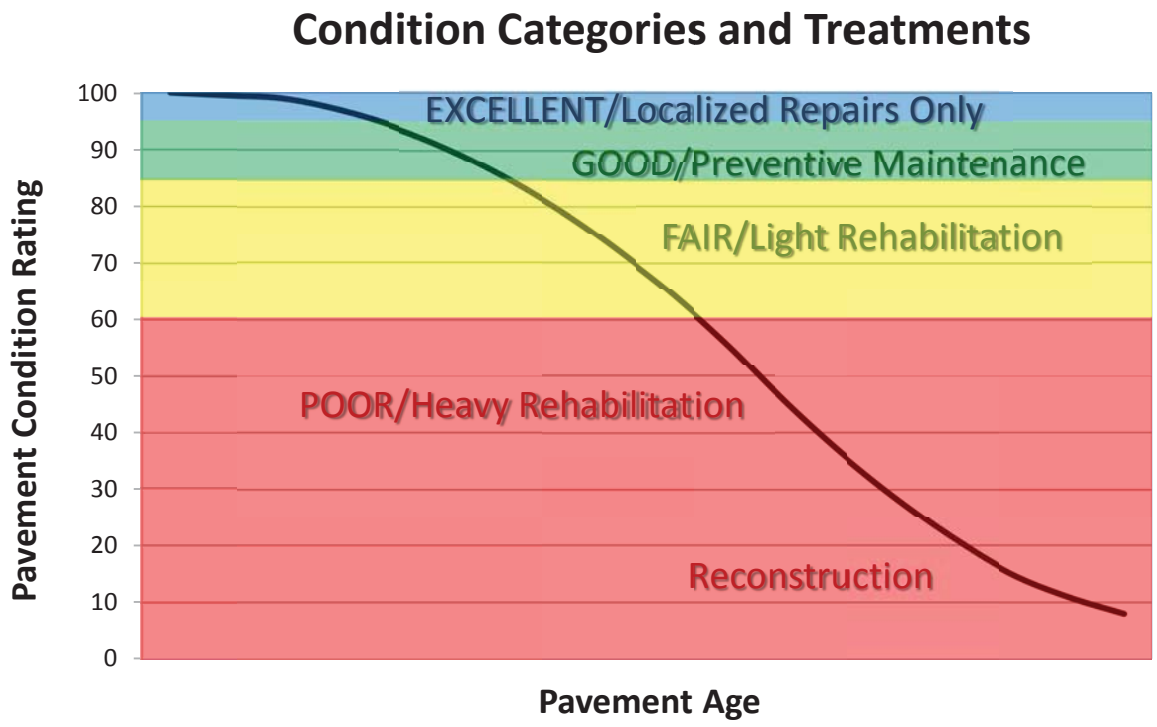
The changes that were implemented were endorsed by management at both the FHWA and NPS. In order to show the effectiveness of these changes, several sites were ground truth tested to ensure that an improvement was achieved between the relationship of PCR and the actual Maintenance and Rehabilitation needs that were represented. These changes will allow greater use of RIP and HPMA data for not simply condition data reporting, but also as a reliable tool for project identification and selection.

Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

In addition to the RIP Index changes that were implemented in Cycle 5, we will provide greater assistance in translating good/fair/poor categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the types of treatments that should be considered now and into the future.

- Excellent/New: PCR of 95-100. Pavements in this range will require only spot repairs.
- Good: PCR of 85-94. Pavements in this range will likely be candidates for Preventive Maintenance. Examples include Chip and Slurry Seals, Micro Surfacing and Thin Overlays.
- Fair: PCR of 61-84. Pavements in this range will likely be candidates of Light Rehabilitation (L3R). Examples include single-lift overlays up to 2.5 inches in total thickness, milling and overlays.
- Poor: PCR of 60 or below. Pavements in this range will likely be candidates of Heavy Rehabilitation or Reconstruction (H3R or 4R). Examples include Pulverization, Multiple Lift Overlays, and Reconstruction.

Specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely on RIP data. Additionally, RIP produces a snapshot of conditions the year in which the data was collected. For further information or to obtain additional Pavement Management System's data from our Highway Pavement Management Application (HPMA) please contact the Eastern Federal Lands pavement team.



DESCRIPTION OF RATING SYSTEM

The Federal Highway Administration (FHWA), National Park Service Road Inventory Program (NPS-RIP), collects condition data on paved roads, parkways, and parking areas in park units nationwide. Road surface condition data is collected using an automated Data Collection Vehicle (DCV). Roads having brick, cobblestone, or wood surfaces are not normally surveyed with the DCV, but are manually rated for the purpose of assigning a condition rating. Unpaved roads, parkways, and parking areas are not currently being evaluated for condition. Paved campground pads and driveways are also not currently being evaluated for condition.

The FHWA RIP is implemented based on the premise that an accurate pavement surface condition assessment can be accomplished using automated crack detection technology as applied to digital images. Various methods of pavement condition assessment have been developed over the years with varying degrees of accuracy and acceptance. The use of digital photography to record pavement images and subsequent crack detection and classification has undergone continuous improvements over the past decade. Digital cameras with increasingly superior resolution and high definition have become more affordable, and the proprietary programming code and algorithms have been improved in crack detection software.

With the use of high quality digital photography and automated crack detection software, FHWA RIP is tasked with executing a pavement condition assessment on about 5000 miles of National Park Service roads and parkways. Foremost in setting up the basis of pavement distress identification is employing the distress identification protocols used by FHWA. There is no single distress identification system that is universal among entities conducting a program of distress identification. For the purpose of the NPS-RIP, FHWA employs distress identification protocols that are specific to this program.

FHWA has referenced the *"Distress Identification Manual for the Long-Term Pavement Performance Program", Publication No. FHWA-RD 03-031, June 2003,* as the point-of-reference for distress types on NPS pavement. The FHWA RIP distress types are similar to those described in the LTPP manual with some modifications. The document, *"Distress Identification Manual for the NPS Road Inventory Program, Cycle 5, 2010-2013"* was developed using the *"Distress Identification Manual for the Long-Term Pavement Performance Program"* as a guideline. Definitions of severity levels based on crack width contained in this document adhere to the LTPP Distress ID Manual. Modifications have been made to the definition of Alligator and Longitudinal Cracking and determination of Alligator Cracking severity. This manual also addresses Rutting and Roughness and its application to NPS-RIP.

In 2010, FHWA RIP began the fifth cycle of data collection in national parks. For Cycle 5, data will be collected in approximately 81 large parks (10 or more paved route miles) on Functional Class 1, 2, and 7 routes plus any new routes or parking areas previously not collected, totaling an estimated 4,459 paved route miles. Additionally, 231 small parks will be collected comprising approximately 529 paved route miles and associated paved parking areas. The data is used to support the National Park Service road maintenance program and Pavement Management System (PMS) developed and maintained by FHWA.

This ***"Distress Identification Manual for the NPS Road Inventory Program, Cycle 5, 2010-2013"*** will be used as a reference resource in crack detection and classification, determination of distress severity and extent, and in the calculation of distress index values for the FHWA RIP Cycle 5.

SURFACE DISTRESSES

Surface Condition Rating - SCR

Surface distresses are measured in the primary lane only. In the classification and measurement of all paved surface condition data, results will be reported in the database in record intervals of 0.02 miles (105.6 feet) (smallest granularity) along the route.

Surface distresses determined from digital images

- Transverse Cracks
- Longitudinal Cracks
- Alligator Cracks
- Patching/Potholes

Surface distress measured by DCV (Data Collection Vehicle) LRMS (Laser Rut Measuring System)

- Rutting

Each of the five surface distresses is assigned a computed surface distress index

- Transverse Crack Index
- Longitudinal Crack Index
- Alligator Crack Index
- Patching/Pothole Index
- Rutting Index

Surface distress data are classified as listed above, measured for severity, and quantified for extent. Classification, severity, and extent of these five surface distresses comprise the three main elements for calculation of SCR (Surface Condition Rating).

In addition to the five surface distresses, a **Structural Crack Index** is computed, which is a combination of the Longitudinal Crack Index and the Alligator Crack Index. The Structural Crack Index is then used in lieu of the LC and AC indices to compute SCR.

Roughness Condition Index - RCI

Additional condition data measured by DCV (lasers and accelerometers)

- Roughness (IRI)

Roughness is measured by FHWA's DCV and reported as International Roughness Index (IRI) in inches/mile. Using IRI, the Roughness Condition Index (RCI) is computed.

Pavement Condition Rating - PCR

Using the SCR (computed from the five surface distresses) and the RCI, an overall Pavement Condition Rating (PCR) is computed. The formula for PCR is:

Asphalt PCR = (0.60 * SCR) + (0.40 * RCI)
Concrete PCR = RCI

A detailed description of each distress index formula, roughness index formula, SCR and PCR is provided in this document beginning on page 8.

Each classified surface distress will fall into one or more s*everity*…LOW, MEDIUM, or HIGH based on criteria listed. For each severity, an e*xtent* is established based on the measured quantity of the distress within that severity. Within each *severity* individual distresses are assigned a *Maximum Allowable Extent* (MAE). For example, LOW severity transverse cracking may be allowed up to 21.1 cracks within a 0.02 interval before it reaches MAE and fails.

The index formulas are based on a scale of 0-100. A PCR index value of 100 would indicate a "new" road with no measurable distresses or rough ride. A PCR value of 60 is determined to be *terminable serviceability* and the road is considered failed. The range of index values with condition descriptors is:

POOR (<=60), FAIR (61 - 84), GOOD (85 - 94), EXCELLENT (95 - 100)

Index values are generally computed based on cumulative deducts of the measured severities. As shown in the index formulas below, as any single severity reaches or exceeds MAE, the index computes to a value of 60 or less, and the road fails for that 0.02 interval.

> **Note:** As a result of a unique combination of measured surface distresses and IRI, index values occasionally compute to less than 0 or greater than 100. In this instance, an index value < 0 defaults to 0. Index values > 100 default to 100. For all indices, a higher value indicates a better road condition, and a lower value indicates a poorer road condition.

On the following page, Table 1 summarizes the different types of distresses measured.

TABLE 1: Distress Summary

ASPHALT-SURFACED PAVEMENT DISTRESS TYPES with RUTTING and ROUGHNESS				
DISTRESS TYPE	**UNIT OF MEASURE…**	**…CONVERTED TO**	**DEFINED SEVERITY LEVELS?**	**MEASURED BY**
Alligator Cracking	**Square Feet**	**Percent of Lane Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Transverse Cracking	**Linear Feet**	**Number of Cracks Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Longitudinal Cracking	**Linear feet**	**Percent of Lane Length Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Patching/Potholes	**Square Feet**	**Percent of Lane Per 0.02 Mile**	**No**	**Digital Image Crack Detection Software**
Rutting	**Inches**	**Rut Depth Per 0.02 Mile**	**Yes**	**DCV – Laser Rut Measuring System (LRMS)**
Roughness	**IRI**	***RCI Per 0.02 Mile**	**No**	**DCV – Lasers /Accelerometers**

***Note: Roughness is measured on concrete roadways, but surface distresses and rutting are not measured. For concrete, PCR = RCI**

ALLIGATOR CRACKING

Description

Alligator cracking is considered a combination of fatigue and block cracking. It is a series of interconnected cracks in various stages of development. Alligator cracking develops into a many-sided pattern that resembles chicken wire or alligator skin. It can occur anywhere in the road lane. Alligator cracking must have a quantifiable area.

Severity Levels

LOW
An area of cracks with no or very few interconnecting cracks and the cracks are not spalled. Cracks are <= 0.25 in (6mm) in mean width. Cracks in the pattern are no further apart than 1 foot (0.328 m). May be sealed cracks with sealant in good condition and a crack width that cannot be determined.

MEDIUM
An area of interconnected cracks that form a complete pattern. Cracks may be slightly spalled. Cracks are >0.25 in. (6 mm) and <= 0.75 in. (19 mm) or any crack with a mean width <= 19 mm and adjacent low severity cracking. Cracks in the pattern are no further apart than 6 in. (150 mm).

HIGH
An area of interconnected cracks forming a complete pattern. Cracks are moderately or severely spalled. Cracks are >0.75 in (19mm) or any crack with a mean width <= 0.75 in (19mm) and adjacent medium to high severity random cracking.

A combination of observed crack width and crack pattern is used to determine overall severity of alligator cracking. Based on above description of each severity, the highest level of crack width and crack pattern determines overall severity. Table 2 illustrates this.

TABLE 2: Alligator Crack Severity Levels

ALLIGATOR CRACKING SEVERITY LEVELS		Crack Pattern		
		LOW	**MED**	**HIGH**
Crack Width	**LOW**	L	M	H
	MED	M	M	H
	HI	H	H	H

LONGITUDINAL CRACKING

Description

Longitudinal cracking occurs predominantly parallel to the pavement centerline. It can occur anywhere within the lane. Longitudinal cracks occurring in the wheelpath may be noteworthy.

Severity Levels

LOW
Cracks with a mean width of < 0.25 in. (6 mm). Sealed cracks with sealant in good condition and a width that cannot be determined.

MED
Cracks with a mean width > 0.25 in. (6 mm) and <= 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH
Cracks with a mean width > 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random medium to high severity cracking.

TRANSVERSE CRACKING

Description

Transverse cracking occurs predominantly perpendicular to the pavement centerline. It can occur anywhere within the lane.

Severity Levels

LOW
Cracks with a mean width of < 0.25 in. (6 mm). Sealed cracks with sealant in good condition and a width that cannot be determined.

MED
Cracks with a mean width > 0.25 in. (6 mm) and <= 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH
Cracks with a mean width > 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random medium to high severity cracking.

PATCHING AND POTHOLES

Description

Patching is an area of pavement surface that has been removed and replaced with patching material or an area of pavement surface that has had additional patching material applied. Patching may encompass partial-lane or full-lane width. On full-lane width patching; the total, contiguous length of a patch may not exceed 0.30 mi. (0.48 km). Any full-lane width patch exceeding 0.30 mi. in length is considered a pavement change, not a patch for the purposes of distress analysis. Patching must have a quantifiable area.

Potholes are bowl-shaped holes of various sizes occurring in the pavement surface.

Severity Levels

There are no stratified severities for Patching/Potholes. They either are present or they are not.

RUTTING

Description

Rutting is a longitudinal surface depression in the wheelpath.

Severity Levels

LOW
Ruts with a measured depth $\geq$ 0.20" and $\leq$ 0.49"

MED
Ruts with a measured depth $\geq$ 0.50" and $\leq$ 0.99"

HIGH
Ruts with a measured depth $\geq$ 1.00"

Ruts < 0.20" are not included in the distress calculations.

ROUGHNESS

Description

Roughness is the measurement of the unevenness of the pavement in the direction of travel. It is measured in units of IRI (International Roughness Index), inches per mile, and is indicative of ride comfort.

Severity Levels

There are no stratified severity levels for roughness. The roughness (or smoothness) of a road surface can be defined by IRI in the following table.

TABLE 3: IRI

IRI Descriptions	
Type of Road	**Typical IRI (in/mile)**
New Road, no noticeable roughness	<90
Small level of roughness	90 – 126
Road of average roughness	126 – 190
Road with above average roughness	190 – 253
Road with severe roughness	253 – 380
Nearly impassable	>380

INDEX FORMULAS

Note**:** All index formulas listed below contain MAE applicable to 0.02 mile (105.6 feet) interval.

Alligator Crack Index

AC_INDEX = 100 – 40 * [(%LOW / 35) + (%MED / 15) + (%HI / 5)]

Where:

The values *%LOW*, *%MED* and *%HI* report the percentage of the observed pavement (0.02 mile, primary lane) that contains alligator cracking within the respective severities. These values range from 0 to 100.

%LOW = Percent of total area (primary lane, 0.02 in length), low severity
%MED = Percent of total area (primary lane, 0.02 in length), medium severity
%HI = Percent of total area (primary lane, 0.02 in length), high severity

Percent of total area is computed as:

$$\frac{\text{square foot area of alligator crack severity}}{\text{0.02 mile * lane width}}$$

In AC_INDEX, the denominators 35, 15, and 5 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 35% of low severity alligator cracking for a 0.02 interval before failure, 15% for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Longitudinal Crack Index

LC_INDEX = 100 – 40 * [(%LOW / 175) + (%MED / 75) + (%HI / 25)]

Where:

The values *%LOW*, *%MED*, and *%HI* report the length of longitudinal cracking within each severity as a percent of the section length (0.02 mile, primary lane).
These values are ≥ 0 and can exceed 100.

%LOW = Percent of interval length (primary lane, 0.02 in length), low severity
%MED = Percent of interval length (primary lane, 0.02 in length), medium severity
%HI = Percent of interval length (primary lane, 0.02 in length), high severity

Percent of interval length is computed as:

$$\frac{\text{length of respective longitudinal cracking}}{\text{0.02 mile (105.6 feet)}}$$

In LC_INDEX, the denominators 175, 75, and 25 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 175% of low severity alligator cracking for a 0.02 interval before failure, 75% for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Structural Crack Index

SC_INDEX = [100 - ((100 - AC_INDEX) + (100 - LC_INDEX))]

Structural Crack Index is a combination of Alligator Cracking and Longitudinal Cracking, and is used in the SCR formula in lieu of AC and LC separately.

Transverse Crack Index

TC_INDEX = 100 – 40 * [(LOW / 21.1) + (MED / 4.4) + (HI / 2.6)]

Where:

The values *LOW*, *MED* and *HI* report a count of the total number of transverse cracks (reported to three decimals) within each severity level, where one transverse crack is equal to the lane width. These values are ≥ 0.

LOW = Number of cracks in interval (primary lane, 0.02 in length), low severity
MED = Number of cracks in interval (primary lane, 0.02 in length), medium severity
HI = Number of cracks in interval (primary lane, 0.02 in length), high severity

Number of cracks is computed as:

$$\frac{\text{Total length of transverse cracks}}{\text{Lane width}}$$

In TC_INDEX, the denominators 21.1, 4.4, and 2.6 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 21.1 low severity transverse cracks for a 0.02 interval before failure, 4.4 cracks for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Patching Index

PATCH_INDEX = 100 – 40 * (%PATCHING / 80)

Where:

The value *%PATCHING* reports the percentage of the observed pavement (0.02 mile, primary lane) that contains patching/potholes. This value ranges from 0 to 100.

%PATCHING = Percent of total area (primary lane, 0.02 in length)

Percent of total area is computed as:

$$\frac{\text{square foot area of patching/potholes}}{\text{0.02 mile * lane width}}$$

There are no severity levels for patching. It either exists or does not.

In PATCH_INDEX, the denominator 80 is the Maximum Allowable Extent (MAE) for each severity. In other words, we will allow up to 80% patching for a 0.02 interval before failure. As you can see, if patching/potholes reaches MAE the resulting index value is 60, or failure.

Rutting Index

RUT_INDEX = 100 – 40 * [(%LOW / 535) + (%MED / 205) + (%HI / 40)]

Where:

20 rut depth measurements are taken per 0.02 interval for each of 2 wheel paths (left and right), resulting in a total of 40 measurements taken for both wheel paths. *Each wheelpath is analyzed independently for rut severities.* The values *%LOW*, *%MED* and *%HI* are a *total percentage* of left wheelpath percentage and right wheelpath percentage added together for the respective severity. These values range from 0 to 200.

%LOW = Percent of LOW ruts in left wheelpath based on 20 ruts, plus percent of LOW ruts in right wheelpath based on 20 ruts.
%MED = Percent of MED ruts in left wheelpath based on 20 ruts, plus percent of MED ruts in right wheelpath based on 20 ruts.
%HI = Percent of HI ruts in left wheelpath based on 20 ruts, plus percent of HI ruts in right wheelpath based on 20 ruts.

Percent of rut measurements within each severity can also be computed as:

$$\frac{\text{total number of ruts within each severity in both wheelpaths}}{20} * 100$$

In RUT_INDEX, the denominators 535, 205, and 40 are the Maximum Allowable Extents for each severity. In other words, the formula allows up to 535% low severity

ruts for a 0.02 interval before. However, since 200 is the highest measurable percentage allowed, 535% is unattainable and therefore, no amount of LOW severity rutting will cause the RUT_INDEX to fail a road. Similarly, since the MAE for MED severity rutting is 205, no amount of MED severity rutting will cause the RUT_INDEX to reach 60 and fail the road. As you can see, LOW severity rutting reaches MAE the resulting index value is 60, or failure. This formula was intentionally designed to minimize the impact of LOW and MED severity rutting on RUT_INDEX.

Roughness Condition Index (Asphalt)

RCI = 32 * [5 * (2.718282 ^ (-0.0041 * AVG IRI))]

Where:

The value *AVG IRI* reports the average value of the Left IRI and Right IRI measurements for the interval (0.02 mile, primary lane). This value can range from approximately 40 to 999.0.

Average IRI is computed as:

$$\frac{\text{Left wheelpath IRI + Right wheelpath IRI}}{2}$$

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

RCI = $-0.0012(IRI^2) + 0.0499(IRI) + 99.542$

For concrete, PCR = RCI

Surface Condition Rating Index

SCR = *Lowest* Index Value Of: [SC_INDEX, TC_INDEX, PATCH_INDEX, RUT_INDEX]

Note: *The modified SCR equation above combines AC_INDEX and LC_INDEX, and considers that a single AC/LC index value of the Structural Crack Index (SC_INDEX). The lowest of the four computed index values (SC_INDEX, TC_INDEX, PATCH_INDEX, or RUT_INDEX) becomes the SCR.*

Where:

See above for determinations of SC_INDEX, TC_INDEX, PATCH_INDEX and RUT_INDEX.

The threshold for failure for this index is SCR = 60.

Data Collection Vehicle Subsystems

Data on paved roads in Cycle 5 is collected by FHWA using a Pathway Services Inc. Data Collection Vehicle (DCV), called PathRunner. The DCV is driven in the primary-direction lane at posted speed limits and less.

CAMERAS

Forward-facing and rear-facing video is collected as .jpg digital imagery at a frequency of 26.4 feet.

Two forward-facing cameras are mounted above the vehicle cab, one pointed straight ahead and the other to the right shoulder providing seamless 120 degree viewing.

CAMERA SPECIFICATIONS **Two Forward/ One Rear Facing**	
Camera lens/type	FUJINON CCTV LENS H16x10B-Y41
Focal length	10 mm – 160 mm
Image size	8.8 mm x 6.6mm
Image format	*.jpg
Image resolution	HD 2000 X 1200
Image pixel size	depends on distance
Zoom ratio	16x
Max Relative Aperture	1:2.5
Iris range	F25-T800 (Equivalent to F800)

Pavement images are created using a Laser Scan Imaging System. This system is composed of a single high resolution line-scan camera and two lasers configured to image an approximate 11-foot wide lane with 1 mm resolution.

CAMERA SPECIFICATIONS **Pavement Line Scan**	
Image size	4280 pixels/line
Image width	4 meters (3950 mm nominal)
Laser class	3B
Power	250W
Vehicle speed limitations	62 mph
Environment	Dry pavement, day or night
Sensor size (approx)	300 mm(H) x 375 mm(L) x 200 mm(D)
Image frame length	26.4 feet

DMI (Distance Measuring Instrument)

The DMI (Distance Measuring Instrument) obtains road length measurements that are accurate to 0.1% for speeds up to 60 mph. The DMI is connected to the hub of the rear wheel on the driver's side, and is calibrated to the revolutions of the rear vehicle axle on a regular basis.

ROUGHNESS (IRI)

The collection system includes a South Dakota type laser profiler manufactured based on active Class 1 ASTM E950 standards. The dynamic profile of the pavement surface is collected from which the IRI roughness data is computed. The sensors include one accelerometer on each wheelpath, one height sensor (laser) on each wheelpath, and a distance transducer.

IRI SPECIFICATIONS	
Reported IRI units	Inches/mile
Vehicle speed limitations	12-62 mph
IRI equipment certification	Texas Transportation Institute (TTI)
Wavelengths accommodated	6 in. – 300 feet
IRI computed & reported	World Bank Technical Paper Number 46
Environment	Dry pavement, day or night, above 32 degrees F
Adherence to specifications	ASTM E950-98 (2004), ASTM E 1926-08, AASHTO MP 11-08, AASHTO PP 49-08

RUTTING

Rutting depths are measured using an INO Laser Rut Measurement System (LRMS). This system is a transverse profiling device that detects and characterizes pavement rutting. The LRMS can acquire full 4 meter width profiles of a pavement lane at normal traffic speeds and uses two laser profilers that digitize transverse sections of the pavement.

RUTTING SPECIFICATIONS	
Reported rut depth units	Inches
Vehicle speed limitations	Up to 62 mph
Sampling rate	30-150 profiles/second
Transverse resolution	1280 points/profile
Transverse field-of-view	4 m
Depth accuracy (nominal)	+/- 1 mm
Environment	Dry pavement, day or night, above 32 degrees F
Adherence to specifications	ASTM E1703M-95 (reapproved 2005)

GPS & INERTIAL SYSTEMS

GPS is collected by an onboard system employing OmniSTAR real-time correction and a gyroscope (spin-type) to provide accurate positioning data (pitch/roll/heading) in instances of satellite obstruction. All GPS coordinates are tied to image and linear distance measurements.

GPS SPECIFICATIONS	
Static accuracy	Sub-meter
Dynamic accuracy	2-3 meters
Receiver	12 satellite tracking
Coordinate system	Lat Lon WGS 84
Environment	Day or night
Cross-slope	+- 0.5 degrees
Grade	+- 0.5 degrees

GPS on Manually Rated Roads (MRR)

Parking areas, some roads, and other paved areas that are not fully drivable with the DCV are collected manually by field technicians. GPS is collected for these routes using portable Trimble GPS backpack units. Paved campground pads and driveways are not typically included in the inventory or GPS.

Geodatabase – Background and Metadata

In addition to this park report, a ***geodatabase*** containing both tabular and spatial data specific to this park has been provided. All data disseminated in the preceding report has been obtained from the tables and fields within said geodatabase. The geodatabase can be referenced for tabular data via Microsoft Access or for both tabular and spatial data via ESRI's ArcGIS Suite of software which consists of; ArcMap, ArcCatalog and ArcExplorer. Consolidating the RIP data into one database creates a seamless relationship of tabular and geographic data. It will allow RIP to facilitate easier updates and enhancements in the future.

A geodatabase can be thought of as simply a database containing spatial data. Many different tables are contained with the park's geodatabase. A complete and thorough description of the tables and fields contained within this geodatabase can be found in the ***metadata***. The metadata is attached directly within the geodatabase and can be accessed via ESRI's ArcCatalog. The metadata portion of the geodatabase also includes data dictionary report functionality that formats the metadata into an easy to read report.

GLOSSARY OF TERMS AND ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
AC	Alligator Cracking
CRS	Condition Rating Sheets (Section 5)
DCV	Data Collection Vehicle
Excellent	Excellent rating with an index value of 95 to 100
Fair	Fair rating with an index value from 61 to 84
FUNCT_CLASS	Functional Classification (see Route ID, Section 2)
Good	Good rating with an index value from 85 to 94
IRI	International Roughness Index
Lane Width	Width from road centerline to fogline, or from centerline to edge-of-pavement when no fogline exists
LC	Longitudinal Cracking
MRR	Manually Rated Route
MRL	Manually Rated Line
MRP	Manually Rated Polygon
N/A	Not Applicable
NC	Not Collected
PATCH	Patching and Potholes
Paved Width	Width from edge-of-pavement to edge-of-pavement
PCR	Pavement Condition Rating
PKG	Parking Area
Poor	Poor rating with an index value of 0 to 60
RCI	Roughness Condition Index
SC	Structural Cracking
SCR	Surface Condition Rating
TC	Transverse Cracking