

Appendix F



USFWS

Construction projects

Refuge Operations Needs System (RONS) and Service Asset Maintenance Management System (SAMMS)

- **Refuge Operations Needs System Databases**
- **Proposed Projects Not Currently in the RONS Database and Their Relationship to Respective CCP Alternatives and Refuge Goals**
- **Service Asset Maintenance Management System Database**

Refuge Operations Needs System Databases

Table F.1. Proposed projects currently in RONS Tier 1 database (FY04) and their inclusion in respective CCP alternatives.

<i>Project #</i>	<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
98034	Improve Refuge ID and Boundary Posting - Hire LE officer	1.0	148		15	X	X	X
99008	Restore Coastal Habitats & Associated Water quality – Hire Facility Manager	1.0	123		15	X	X	X
98056	Increase Biological knowledge of Refuge Species and related habitat	0	37		15	X	X	X
97005	Improve Public Understanding of refuge goals and mission - Hire ORP	1.0	110		15	X	X	X
98022	Expand exotic plant eradication and monitoring program on the refuge	0	51		15	X	X	X
98060	Improve ability to effectively and efficiently accomplish station and service goals - Hire Administrative assistant	0.5	58.5		15	X	X	
98040	expand bird studies and banding program	0	33		15	X	X	
98052	Develop and print brochures to increase outreach and educational opportunities	0	105		15	X	X	

Table F.2. Proposed projects currently in RONS Tier 2 database (FY05) and their inclusion in respective CCP alternatives.

<i>Project #</i>	<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
02005	Control and monitor invasive species with partners	0	48	20	15	x	x	x
03001	Manage habitat for New England cottontail - Hire biologist	1.0	139	84	15		x	
01001	Piping plover and least tern management	0	52	18	15	x	x	x
01007	Improve baseline data collection of surveys for priority bird species	1.0	61	45	15			x
99007	Restore salt marsh habitat	0	56	20	15	x	x	x
99009	Ecology of salt marsh and Nelson's sharp-tailed sparrows	0	70	30	15	x	x	
98017	Manage grasslands effectively throughout the refuge	0	17	4	15		x	
03002	Rachel Carson partners for Wildlife Program - Biologist	1.0	147	92	15		x	x
01004	maintain early successional scrub/shrub habitat	0	73	15	15		x	x

Table F.2. Proposed projects currently in RONS Tier 2 database (FY05) and their inclusion in respective CCP alternatives (continued).

<i>Project #</i>	<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
99017	Restore refuge grasslands to native grasses	0	45	3	15		x	
01003	Restore early successional scrub/shrub habitat	0	47	15	15		x	x
01005	Conduct fish surveys of refuge rivers	0	66	13.5	5		x	
98043	Conduct aerial waterfowl and habitat surveys	0	22	15	5			x
98054	Maintain and update refuge GIS database	1.0	160	90	15			x
02007	LMRD Program - Hire assistant Biologist	1.0	144	79	15		x	
03003	Protect and Manage Water and Wetlands	0	100	30	15		x	x
02004	Expand awareness of refuge and NWRS	0	100	30	15		x	x
99010	Restoration and management of freshwater wetlands	0	90	11	15			x
02006	Establish the Rachel Carson NWR marine Protected Area (MPA)	0	20	15	5			x
99014	Improve community relations and understanding of refuge's presence	0	36	8	15		x	x
98011	Improve visitor services	1.0	140	100	15			x
98014	Investigate the ecology and importance of vernal pools and associated wildlife	0	35	5	5		x	
98075	Provide opportunities for visually impaired visitors	0	32	0	1		x	x
98033	Review project proposals for refuge and adjacent lands-Hire Secretary	1.0	80	46	15			x
98005	Develop a water quality monitoring plan	0	85	10	15		x	
03004	Secure station facilities, equipment and staff safety	0	44	10	15	x	x	x
98027	Manage 3000 acres of Forest Habitats	0	50	30	15			x
98029	Improve and evaluate habitat through the use of prescribed fire	0	90	25	15		x	
00201	Inventory resources and apply adaptive management techniques	0	45	15	15		x	x
01002	Implement water quality monitoring program	0	75	20	15		x	x
01008	Protect refuge resources and visitors - Hire LE Officer	1.0	144	71	15		x	
98003	Expand refuge fire management program	0	45	20	15		x	x

Table F.2. Proposed projects currently in RONS Tier 2 database (FY05) and their inclusion in respective CCP alternatives (continued).

<i>Project #</i>	<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
00202	Protect resources and ensure public safety	1.0	136	66	15			x
00203	Manage Habitat/Maintain Facilities - Hire Maintenance Worker	1.0	128	54	15			x
02003	Implement a Youth Conservation Corps Program	0.3	50	31	15		x	
97004	Expand planning efforts for the station visitor center	6	1129	335	15			x
98002	Expand archaeological survey to additional refuge lands	0	96	0	1		x	
98032	Improve cooperative resource management opportunities on tribal lands	0	10	0	1			x
98053	Increase volunteer efforts at the refuge	0	20	10	15	x	x	x
98024	Investigate relationship between deer density and the incidence of Lyme disease	0	17	0	1	x		
98041	white-tail deer studies	0	35	22	1			x
98021	Increase waterfowl surveys of refuge lands throughout the year to weekly	0	19	5	5	x		
97002	Improve trust resource protection by improved oil spill prevention planning	0	70	17	15		x	x
99006	Implement Wells Harbor Dredge Interagency agreement	0	67	11	5	x		
02001	Visitor and resource protection improvement	0	60	10	15		x	x
02002	Law enforcement equipment	0	26	2	15	x	x	x
98073	Improve efficiency and cost effectiveness of refuge habitat management operations	0	73	10	15	x	x	x
00002	Enhance wetland restoration capabilities	1	114	56	15			x
98016	Improve water quality and restore wetland habitat on the refuge	0	36	5	15		x	x
99004	Provide watchable wildlife viewing stations	0	75	5	1		x	
01006	Construct a fire equipment storage building	0	68	3	1		x	x
99005	Develop wheelchair accessible fishing platform and observation platform	0	129	4	1		x	x
05001	Manage 10,000 acres of Uplands - Hire Assistant Manager	1	109	67	15		x	x

Proposed Projects Not Currently in the RONS Database and Their Relationship to Respective CCP Alternatives and Refuge Goals

Table F.3. Goal 1. Perpetuate the biological integrity and diversity of coastal habitat to sustain native wildlife and plant communities, including species of conservation concern.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Conduct monitoring and research of salt marsh to address marsh die, back, sea level rise, and other issues, function of vegetated shoreline buffers	0	40	20	15		x	x
Stormwater management and control with partners,	0	25	20	15		x	
Determine mercury and other contaminant exposure, and pathways and the effects on sharp-tailed sparrows	0	30	18	15		x	
Shorebird Management including ISS and PRISM surveys, turnover rates, roosting sites	0	25	15	15		x	x
Waterfowl Management including evaluate level of surveys required	0	20	9	15		x	
Manage Dune Grasslands to maintain ecological integrity, and educate recreational users	0	15	7	15		x	x
Use agreements, easements, and acquire to protect dune grassland habitat, piping plovers, least terns	0	10	5	15		x	x
Investigate the ecological and management requirements of tidal rivers for anadromous, catadromous fish species and other species of concern	0	30	20	15		x	
Maintain ecological integrity of coastal Maine watersheds with partners by promoting land conservation efforts and working collaboratively on management initiatives; identify and protect critical habitats with partners	0	35	18	15		x	x
Manage tidal habitats including identifying, monitoring and restoring SAVbeds	0	25	9	15		x	x
Manage and monitor Maritime Shrub habitat with partners; conduct avian surveys during migration and breeding, broaden land conservation initiatives	0	40	20	15		x	x
Document and understand legal jurisdiction for protecting trust resources within the Marine Protected Area; evaluate implications of energy development (i.e., wind turbines)	0	25	9	15		x	
Manage and Monitor Biodiversity; conduct botanical surveys, working with state agencies implement surveys for listed plants, animals, and invertebrates on refuge; identify and protect rare natural communities and features; sponsor "bioblitz"	0	35	12	15		x	x
Manage and monitor pitch pine bog communities, conduct flora and fauna surveys, work with neighbors to maintain the habitat	0	20	9	15		x	x

Table F.3. Goal 1. Perpetuate the biological integrity and diversity of coastal habitat to sustain native wildlife and plant communities, including species of conservation concern (continued).

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Expand Shorebird Management and surveys	0	15	8	15			x
Hire seasonal technicians to manage/monitor piping plover and least terns	0	45	35	15			x
Establish multi-state least tern monitoring network, conduct banding studies	0	40	18	15			x

Table F.4. Goal 2. Perpetuate the biological integrity and diversity of freshwater habitats to sustain native wildlife and plant communities, including species of special concern.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Work with municipalities on educating landowners on shoreland protection	0	15	7	15		x	x
Stormwater management including discharge, BMP's	0	25	15	15		x	x
Partner with water companies to identify areas to work together to protect aquatic resources	0	30	18	15		x	x
Work with the state to map distribution, protect and manage Blanding's and wood turtles	0	15	8	15		x	x
Manage and Monitor Biodiversity; conduct botanical surveys, working with state agencies implement surveys for listed plants, animals, and invertebrates on refuge; identify and protect rare natural communities; sponsor "bioblitz"; survey dragonflies and damselflies	0	25	13	15		x	x
Evaluate fish barriers and work with partners to enhance fish passage; evaluate impacts to rivers and streams from boating; work with partners to influence upstream land uses to improve water quality	0	45	20	15			x
Survey all vernal pools, enhance turtle and wildlife crossings with partners	0	15	8	15			x

Table F.5. Goal 3. Perpetuate the biological integrity and diversity of upland habitats to sustain native wildlife and plant communities, including species of conservation concern.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Manage New England Cottontail (NEC); survey known and potential sites; establish NEC populations at two new sites; evaluate role of invasive plants on habitat and feasibility of replacing invasives with native shrubs	0	50	30	15		x	x
Evaluate and refine bird and vegetation monitoring in grassland units	0	7	7	15		x	
Manage and Monitor Biodiversity; conduct botanical surveys, working with state agencies implement surveys for listed plants, animals, and invertebrates on refuge; Continue with New England Wildflower Society/state rare plant monitoring; sponsor "bioblitz"; conduct bat and owl surveys	0	12	12	15		x	x
Conduct surveys for black racers, research nest productivity of shrubland birds	0	5	5	15			x
Establish nursery for propagating native shrubs and other native plants	0	12	12	15			x
With landowners monitor grassland nesting birds, evaluate restoration of native warm season grasslands	0	15	15	15			x
remove all invasives from deciduous forest, monitor hemlock stands for wooly adelgid	0	45	45	15			x
Restore pitch pine habitats lost to succession since the 1947 fire	0	30	30	15			x

Table F.6. Goal 4. Develop the Rachel Carson National Wildlife Refuge as an outstanding center for research and demonstration emphasizing land management techniques for restoring and sustaining healthy estuarine ecosystems in concert with the National Land management Research and Demonstration (LMRD) program.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Identify, continue, and expand partnerships and collaborations to: further research in estuarine ecosystem restoration, management and conservation; provide financial support to research projects	0	80	30	15		x	x
Fund graduate student program, field assistants, interns	0	50	30	15		x	x
Review existing work and develop an electronic repository of information on the function and management of estuarine habitats; establish a library of materials and holdings available to managers and researchers	0	75	20	8		x	x
Identify existing SAV and macroalgae sites and evaluate for restoration potential	0	50	25	8		x	x
Establish research projects on refuges and other sites to test habitat-specific restoration techniques; develop and test new techniques and insure that findings are documented and published.	0	80	40	15		x	x
Identify facility needs including administrative, research, and housing needs	0	10	10	1			x
Conduct outreach for managers and others through workshops; develop and produce scientific and lay publications, posters, and videos; use the Internet to provide and disseminate habitat management information	0	20	20	15		x	x
Conduct inreach to the refuge and NWRS about the LMRD program	0	15	7	15		x	x
Develop and Implement automated remote monitoring of salt marshes	0	100	75	15			x
Conduct field studies, analyze samples, work with visiting scientists - Hire Resource Specialist	1.0	109	67	15			x
Manage and analyze data, maintain and manage GIS data, conduct field studies - Hire Biologist/GIS specialist	1.0	144	79	15			x
Establish inter-agency restoration team for salt marsh restoration	0	50	25	15			x
Establish mentoring program and details for NWRS employees on LMRD	0	10	5	15			x

Table F.7. Goal 5. Increase appreciation and stewardship of coastal Maine wildlife and their habitats by providing positive wildlife-dependent experiences for Refuge visitors.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Evaluate existing and future fees for hunting and other uses	0	3	2	15		x	
Install interpretive signs, kiosks; develop and install interpretive signs at existing trails on management and trust resources	0	50	20	15		x	x
Develop and host interpretive programs on a variety of subjects	0	35	15	15		x	x
Maintain and expand internship program, YCC program, volunteer program including Friends group	0	50	40	15		x	x
Develop trails on newly acquired land using existing infrastructure, and connecting to partner facilities where possible	0	70	30	15		x	x
Meet with decision makers in the 12 town region on issues of joint interest/concern; utilize new administrative facility for public meetings and educational programs	0	15	10	15			x
Sponsor and support regional environmental education programs including Envirothon;	0	15	10	15		x	x
Utilize proposed donated environmental education facility at the Goosefare Brook division	0	25	10	15		x	
Develop and distribute refuge specific lessons for use in schools or at the refuge, interact with teachers to ensure that refuge specific lessons meet Maine Learning Results and teacher needs	0	30	15	15			x
Manage Refuge hunting program by continuing to coordinate with the state, adjusting the program for safety and sound wildlife and habitat management, to provide opportunities for disabled and youth hunters, and to host education classes annually.	0	10	5	15		x	x
Manage Refuge fishing program by providing on-site information to anglers, evaluating additional sites, developing partnerships with local interest groups, and hosting a second fishing event annually	0	10	5	15		x	x
Manage wildlife observation and photography program by improving trails where needed, constructing a new observation platform/blinds on identified units, and by promoting activities through regular media contact	0	20	10	15		x	x
Provide year round ecologically sound rest room facilities at the Carson Trail	0	65	12	15		x	
Install interactive displays about wildlife, develop brochures and/or signs for all trails, develop interpretive panels at all overlooks	0	100	30	5			x
Develop educational curriculum for additional grade levels	0	20	10	5			x
provide hunting blinds and stands, teach BLIP course	0	20	10	15			x
Sponsor fishing workshops and provide commercial fishing access	0	15	8	15			x
Teach wildlife photography classes, and establish a reference library on wildlife in the area	0	5	2	15			x

Table F.8. Goal 6. Foster off-Refuge cooperative actions and partnerships to promote wildlife conservation and further Refuge goals.

<i>Project Description</i>	<i>Staffing (FTE's)</i>	<i>Cost Year 1 (x1000)</i>	<i>Cost, Recurring (x1000)</i>	<i>Project Duration (years)</i>	<i>Alt A</i>	<i>Alt B</i>	<i>Alt C</i>
Participate as a member of regional initiatives to further land conservation, habitat management, and wildlife management for trust species and species of conservation concern	0	8	5	15		x	x
Facilitate watershed wide invasive species control programs	0	30	15	15		x	x
Restore a minimum of 50 acres annually of various habitats	0	50	40	15		x	
Sponsor or co-sponsor with partners regional natural resource workshops	0	10	6	15		x	x
Host one local or statewide annual contest such as the Junior Duck Stamp contest	0	10	5	15		x	x
Develop and staff exhibits at four or more major regional or state events annually	0	25	5	15		x	
Develop and host an annual Rachel Carson Festival beginning in 2007	0	25	10	14		x	
Develop and staff exhibits at ten more major regional or state events annually	0	25	9	15			x
Restore a minimum of 100 acres annually of various habitats	0	70	45	15			x
Expand Rachel Carson Private Lands Program - Hire Biologist	1	85	60	15			x

Service Asset Maintenance Management System Database

Table F.9. Projects currently backlogged in the Service Asset Maintenance Management System (SAMMS) database (FY05) for Rachel Carson NWR

<i>Project #</i>	<i>SAMMS Work Order #</i>	<i>Project Description</i>	<i>Cost Estimate (\$1,000)</i>
97004	97110304	Construct Visitor Contact Station	1200
99016	99104248	Replace Kiosks	29
03001	03126303	Construct Facility to Replace SAMMS 10024177	1253
98530	98104237	Rehabilitate Boat Ramp/Fishing Pier	78
99003	99123773	Construct year round Restrooms at Carson Trail	45
98513	98104245	Replace Carson Trail Observation Platforms	34
99004	99	Construct 4 wildlife viewing overlooks	78
98529	98104234	Rehabilitate Hiking Trails	27
99005	99	Construct accessible fishing and observation platform	135
01010	01	Construct a fire equipment storage building	157
99001	99123772	Construct Trail and Restroom at Brave Boat Harbor	161
01002	01113370	Replace Marooka MST-600 Dump Carrier	31
98073	98	Construct Storage Facility	125
98524	98104252	Replace damaged Ford explorer	37

Table F.9. Projects currently backlogged in the Service Asset Maintenance Management System (SAMMS) database (FY05) for Rachel Carson NWR (continued)

<i>Project #</i>	<i>SAMMS Work Order #</i>	<i>Project Description</i>	<i>Cost Estimate (\$1,000)</i>
03004	03130707	Construct "Environmentally Green" Rachel Carson/Saco Trails EE building	63
00002	00104236	Replace International Tractor Truck	175
03005	03130712	Construct Pre-fabricated pedestrian bridge for Bridle Path along Mousam River	63
92009	92104242	Replace Signs and posts	26
99012	99104240	Remove rubbish on refuge lands	26
99011	99104260	Rehabilitate Access Roads	37
01003	01113371	Replace supplemental equipment, trailers, attachments	26
98544	98104255	Replace old 1988 snowplow and snow blower	26
98517	98104258	Replace 4x4 Chevrolet Truck and trailer	99
00003	00104253	Replace worn 1994 Ford explorer	38
00001	00104254	Replace unstable lowboy trailer	55
98537	98104251	Rehabilitate office/sub-headquarters HVAC and replace oil tanks	58
98515	98104249	Replace identification/directional signs	26
98500	98104235	Replace culverts	32
94013	94109430	Rehabilitate trails, boardwalks at Carson Trail	26
02014	02121126	Rehabilitate Harts Road East	80
01007	01113574	Replace Duranautic Boats, outboard motor and trailer	26
01008	01113601	Replace 1977 gasoline fork lift	69
01009	01113603	Replace Big Joe 1 ton electric lift	11
02005	02120582	Replace 1987 20 ton dump truck	52
02008	02121068	Rehabilitate Carson trail public use road and parking area	26
02012	02121093	Rehabilitate public use parking lots	33
02009	02121071	Rehabilitate Spurwink River Road and parking lot	31
04010	04134036	Replace 1988 Dodge Dakota 4x2 with cab	30
01006	01113386	Replace 1992 1 ton diesel crewcab pickup	31
02001	02120574	Replace 1998 Jeep Grand Cherokee	31
02003	02120580	Replace 2000 Ford expedition 4x4	33
02013	02121100	Rehabilitate Mousam River public access parking lots	26
02004	02120581	Replace 2001 Ford 4x4 Regular Cab pickup	29
02011	02121082	Rehabilitate Oxcart lane	34
02006	02120586	Replace 2002 Ford Escape 4x4	26
02010	02121076	Repair brave Boat Harbor West Public Use road	104
03002	03126310	Repair Truck with a towed/transport body	26
02007	02120880	Replace 1996 John Deere 310SE Backhoe/loader	63
02015	02121128	Rehabilitate Furbish Road parking lot	30
02002	02120576	Replace 1998 Ford Stake body truck	47
04001	04133750	Replace Trimble Model TSC1 GPS unit	15
04006	04133782	Repair and rehab Houston Garage/Storage building	47
04002	04133751	Replace 2004 Honda Civic hybrid	20
04004	04133766	Replace 2003 John Deere 6420 tractor	55
04005	04133767	Replace ASV 2810 Posi Track	70
05001	05137479	Replace 2004 Dodge 2500 pickup	33
Grand Total			5,302