

Appendix C: Course of Action and Monitoring Table

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-01	Develop RCW Habitat/Ecosystem Management Model	TES 01, FOR 03	1	Danny Marshburn	Develop Ecosystem Management Model for natural resources integration management purposes. Determine the ongoing data collection process/strategy to maintain and sustain the chosen model.	1, 3, 4	N/A	Ecosystem Management Model, developed and implemented by 2011. Was the model developed?
04-02	Evaluate RCW partitions covered in current forest prescription	TES 01, FOR 03	0	Craig Ten Brink	Base evaluation on parameters for good quality habitat according to the 2003 RCW Recovery Plan and recommend management actions to move habitat toward a good quality condition.	1,3,4	# partitions evaluated as part of forest prescription	100% partitions within current year's compartment cycle evaluated?
04-03	Evaluate high-priority RCW partitions that are outside the timber prescription cycle	TES 01, FOR 03	0	Craig Ten Brink	Base evaluation on parameters for good quality habitat according to the 2003 RCW Recovery Plan and recommend management actions to move habitat toward a good quality condition	1,3,4	# high priority partitions evaluated	100% high priority partitions outside current year's compartment cycle evaluated?

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04-04	Produce an RCW habitat inventory of RCW management areas based on 2003 Recovery Plan criteria for good quality habitat	TES 01, FOR 03	1	Craig Ten Brink	Establish a baseline for good quality habitat according to the 2003 RCW Recovery Plan. Survey all RCW management acres	3,4	Acres surveyed	36,000 acres surveyed by 2011?
04-05	Modify Base forest data collection to better quantify variables contributing to good quality habitat	TES 02, FOR 03, FOR 05	1	Danny Marshburn	Modify data collection process to ensure that parameters for good quality habitat as defined in the 2003 RCW management plan are being collected. As parameters change for determining good quality habitat, the type and quantity of data may also change.	4	N/A	Data Collection modified by 2009?
04-06	Restore longleaf pine within the guidelines of the 2003 Recovery Plan for the RCW.	TES 02, FOR 03	0	Danny Marshburn	Convert off-site species to longleaf pine, based on the Ecological Classification System. Beneficial impacts will be to the training mission and the forest ecosystem. Conversion will be completed in compliance with the guidelines of the 2003 RCW Recovery Plan	1, 3, 4	Number of acres prescribed and planted with longleaf pine annually.	Did conversion of off-site species to longleaf pine occur?

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04-07	Mechanical Midstory Vegetation Control and Maintenance in support of the ESA	TES 02, MIG 01, FOR 03, PRO 02	0	Danny Becker	Provide mechanical treatments for control, maintenance and restoration of understory vegetation in support of T&E species management and ecosystem restoration.	1,3,4	Acres accomplished	600-800 acres of mechanical treatments are performed?
04-08	Promote high-quality RCW habitat through removal of canopy hardwoods and thinning of mature pine stands.	TES 02, FOR 05	0	Danny Marshburn	Silvicultural activities such as thinning pine stands and removal of canopy hardwoods improve RCW habitat. Allowable hardwood canopy component for high quality RCW habitat must not exceed 10%.	4	Number of acres of canopy hardwood removed and mature pine thinned.	Were silvicultural activities performed to promote high quality RCW habitat?
04-09	Maintain sufficient numbers of cavities per cluster and use cavity restrictors when necessary	TES 03	0	Craig Ten Brinkm	Maintain at least 4 suitable cavities per cluster either by drilling new cavities, using cavity restrictors, or replacing old insert cavities	4	N/A	All clusters have at least 4 usable cavities?

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04-10	Maintain sufficient number of unoccupied recruitment clusters	TES 03	0	Craig Ten Brink	Maintain the number of unoccupied recruitment clusters at a number equal to at least 10% of the number of active clusters. Previously occupied clusters may count toward this number.	4	number of unoccupied recruitment clusters	Number of unoccupied clusters is equal to at least 10% of the number of active clusters?
04-11	Translocation of RCWs	TES 03	0	Craig Ten Brink	Use translocation to attempt to increase the rate of population growth and cluster occupation.	4	Number of birds translocated	Was translocation attempted?
04-12	Protect RCW cavity trees from fire	TES 03	0	Craig Ten Brink	Protect cavity and start trees from fire by brushcutting and clearing vegetation from around the base of each tree (terms and conditions of 1999 BO).	4	Number of active clusters protected from fire	100% of active cavity trees protected from fire?

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04-13	Inspect cavity trees after prescribed fire	TES 03	0	Craig Ten Brink	Inspect the contidion of cavity trees after prescribed fire (terms and conditions of 1999 BO)	4	N/A	100% of cavity trees inspected in burned areas?
04-14	Educate Marines to reduce impacts from training on cavity trees	TES 03	0	Craig Ten Brink	Ensure Range Safety Officer class includes RCW cluster and cavity tree protection information.	1,3,4	NA	Information on RCW cluster restrictions presented in RSO class?
04-15	Maintain and update RCW cluster buffer markings.	TES 03	0	Craig Ten Brink	RCW cluster buffer markings will be updated as paint fades and chips. Also, buffers will be reconfigured as new cavity trees are discovered or created, as trees die, or if clusters split or bud.	1,4	Number of cluster buffers maintained/updated.	Maintenance/updating performed on all clusters needing it?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-16	Inspect high traffic clusters weekly to assess impact.	TES 03	0	Craig Ten Brink	Inspect high traffic clusters weekly to assess for violations of training restrictions related to RCW.	1,4	N/A	Inspections completed?
04-17	Maintain minimum growth rate of 5% per year (avg. over 10 years).	TES 03	0	Craig Ten Brink	RCW population growth rate, based on number of active clusters, should meet or exceed 5% when averaged over 10 years (current year plus previous 9 years)	4	% RCW population growth rate of active clusters averaged over 10 years, and # of active clusters	Each year growth rate of active clusters averages at least 5% over 10 years (current year plus previous 9)?
04-18	Create a new GIS feature class representing RCW partitions	TES 04	1	Craig Ten Brink	Create a GIS layer using potential cluster stands and forage habitat to determine viable RCW habitat partitions. Active cluster partitions will be determined either by home range follows, or using method in 2003 recovery plan. Recruitment partitions wil	3,4	N/A	Partition layer completed by Feb. 2006?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-19	Monitor 100% RCW population annually	TES 04	0	Craig Ten Brink	Collect data on population demographics, reproductive success, home range and breeding statistics, including clutch size, fledge success, sex of fledglings breeding status of adult birds and number of helpers in the population. Monitor/collect other data as required by USFWS consultations (including, but not limited to monitoring of RCW clusters and habitat within the Company Battlecource	3,4	Number of clusters monitored	100% of active clusters monitored and report sent to USFWS by 31 January?
04-20	Survey annually for new cavities	TES 04	0	Craig Ten Brink	Annually, survey RCW clusters and surrounding habitat for new cavity or start trees. Surveys may be systematic or completed during other tasks such as RCW fledge checks, forestry activities, RCW habitat evaluations,etc.	4	Surveyed acres.	Survey 100% of acres likely to contain RCW cavity trees?
04-21	Continue military impact monitoring.	TES 04	0	Craig Ten Brink	Mark impacts of military training to unmarked RCW clusters.	1,3,4	N/A	Military impacts monitoring continued?

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04-22	Track development of habitat.	TES 04	0	Craig Ten Brink	Track acreage of suitable or potentially suitable RCW habitat that is lost to RCW mngt. No more than 10% of habitat in each RCW management area should be developed.	1,3,4	% of each RCW management area developed	Developed habitat remains below 10% per RCW management area?
04-23	Conduct home-range follows of selected RCW groups.	TES 04	1	Craig Ten Brink	Collect data on home ranges of selected RCW clusters in order to make sound management decisions.	1,3,4	number of clusters	Were home range follows conducted?
04-24	Assess benefit of pond pine habitat to Camp Lejeune's RCW population	TES 04	0	Craig Ten Brink	Assess pond pine habitat for RCW habitat suitability using 2003 habitat criteria and home range follows.	3,4	Number of acres assessed	All pond pine habitat assessed by 2010?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-25	Apply RCW population model to forecast impacts to demographic stability from range and facility development	TES 05	1	Craig Ten Brink	Use Letcher RCW population model to determine whether a development project will have an impact on the demographic stability of Camp Lejeune's RCW population as necessary	3,4	N/A	Was Letcher model used to determine impacts of projects as necessary?
04-26	Monitor Company Battle Course	TES 05	0	Craig Ten Brink	Continue expanded monitoring of affected RCW clusters and habitat for the live of the CBC.	1,4	Report to USFWS	Was report submitted?
04-27	Implement management strategy which allows for removal of training restrictions as population milestones are met.	TES 05	0	Craig Ten Brink	Implement strategy outlined in Chapter 4 by which training restrictions will be removed from RCW clusters as population milestones are met. Percentage of unmarked clusters increases as the overall population increases.	1,3,4	N/A	Were restrictions removed as milestones were met?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-28	Promote population growth by placing unmarked clusters in High-use training areas.	TES 05	0	Craig Ten Brink	By removing restrictions on RCW clusters in high-use training areas, Camp Lejeune will increase the incentive to grow the RCW population in these areas. RCW growth in these areas will be limited only by habitat and population dynamics.	1,3,4	Number of new clusters in high-use areas	Were recruitment clusters placed in high-use areas?
04-29	Implement relaxed training restrictions with in 200 ft cluster buffer.	TES 05	0	Craig Ten Brink	Implement training restrictions in RCW clusters consistent with the 1996 Army RCW guidelines.	1,3,4	Number of clusters	100% of marked clusters subject to Army restrictions?
04-30	Protect sensitive habitat at South Onslow Beach	TES 06, TES 09, TES 11, MIG 01	0	Craig Ten Brink	Limit training and recreational use of beach strand south of Onslow Beach south tower. No tracked vehicles, and seasonal restrictions on recreational use	1,3,4	N/A	Were restrictions implemented?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-31	Submit annual report to USFWS re implementing terms and conditions of Beach BO (2002).	TES 06, TES 09, TES 11	0	Craig Ten Brink	Term/condition #5 in Biological Opinion on the effects of current use and modification of training areas, dune stabilization, and continued recreational use of Onslow Beach (5/10/00).	1,3,4	Annual report to USFWS	Was report submitted to USFWS by 28 February?
04-32	Enforce BO 11017.1f	TES 06, TES 09, TES 11, REC 03	0	John Waters	Base Order restricts recreational driving on Onslow Beach during sea turtle and shore bird nesting season. CLEO inspects Onslow Beach daily during sea turtle season. If inspection reveals that military training is not physically impeding recreational access, then the beach will be patrolled (CLEO drive beach sufficient to determine activity/violations) weather/sea conditions permitting.	1,3,4	Number of inspections during April 1 to October 1.	Inspections performed daily from April 1 to October 1
04-33	Rake ruts in front of sea turtle nests.	TES 06	0	Craig Ten Brink	Near time of hatching, ensure there are no tire ruts between nests and ocean.	1,3,4	Number of nests (if applicable).	Rake 100% of nests with ruts?

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04-34	Implement Camp Lejeune sea turtle protocol	TES 06	0	Craig Ten Brink	Sea turtle protocol incorporating monitoring, tagging, protection of nest sites, moving nests from training beach, etc. (incorporate BA and terms and conditions from beach BO).	4	N/A	Protocol implemented?
04-35	Conduct aerial surveys for sea turtle nests on Browns Inlet and North Onslow	TES 06	0	Craig Ten Brink	Area can not be monitored on the ground due to UXO	4	Number of surveys conducted	Surveys conducted at least twice per week between May 15 and August 30?
04-36	Monitor Browns Island fence for potential sea turtle impacts	TES 06	0	Craig Ten Brink	Conditions of consultation on fence installation.	2,4	Frequency of inspections	Fence inspected prior to nesting season and at least once per month or after storms during sea turtle nesting season?

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04-37	Reduce sources of artificial lighting on Onslow Beach	TES 06	1	Craig Ten Brink	Retrofit existing lights and ensure that new lighting conforms to recommendations for sea turtle nesting beaches.	2,4	N/A	Lighting situation satisfactory?
04-38	GPS mid-tide level at least once per year.	TES 06	0	Craig Ten Brink	In order to document changes to the shoreline of Onslow Beach, record the location of the estimated mid-tide line in November each year, using a global positioning system.	4	N/A	Mid-tide level GPSed?
04-39	Monitor recreational or training impacts to beach during sea turtle nesting season.	TES 06	0	Craig Ten Brink	During morning sea turtle surveys or whenever on the beach during the nesting season, ECON personnel will monitor and report training or recreational violations	1,4	Number of impacts.	Monitoring conducted and results reported?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
04-40	Implement RLL monitoring protocol	TES 07	0	Craig Ten Brink	Report results to NC Plant Conservation Program.	4	Report to NC Natural Heritage and Plant Conservation Program	Populations monitored according to protocol, and reported to NC Natural Heritage and Plant Conservation Program by 31 September?
04-41	Update GIS layer for RLL on a yearly basis	TES 07	0	Craig Ten Brink	When RLL site is scheduled to be surveyed, re-GPS the extent of the site to be entered into GIS.	1,4	Number of populations	All populations monitored re-GPSed, and GIS layer updated?
04-42	Survey high-probability RLL habitat in areas to be affected by management or development actions.	TES 07	0	Craig Ten Brink	If RLL is found, address it through recommending changes to project or through consultation with USFWS.	3,4	N/A	100% of high-prob habitat surveyed for RLL prior to project?

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04-43	Mechanically treat RLL habitat with DR mower.	TES 08	0	Craig Ten Brink	Use mower to reduce competition from tall or shrubby vegetation, when fire has not sufficiently reduce competition	4	Number of clusters treated mechanically.	All populations in need are treated?
04-44	Prescribe burn RLL habitat.	TES 08	0	Danny Becker	Promote conservation of RLL; use prescribed burning treatments to maintain and improve RLL habitat.	4	N/A	Sites burned at least once every three years?
04-45	Maintain and update buffer areas around RLL sites.	TES 08	0	Craig Ten Brink	Buffer markings will be updated as paint fades and chips. Also, buffers will be reconfigured if necessary as new plants are discovered.	1,3,4	number of sites maintained.	100% of sites in need of maintenance or updating are treated?

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04-46	Protect RLL sites from soil disturbance and changes to hydrology.	TES 08	0	Craig Ten Brink	Ensure that RLL sites are not impacted by changes to hydrology caused by development, road work, forestry activities, etc. Projects may be identified through the NEPA process.	3,4	N/A	Were potential hydrology impacts avoided?
04-47	Survey all possible habitat on Onslow Beach for seabeach amaranth annually.	TES 09	0	Craig Ten Brink	Document spatial and temporal establishment of SBA on Onslow Beach and report to USFWS.	3,4	number of acres/plants	Surveys done?
04-48	Mark and protect SBA sites.	TES 09	0	Craig Ten Brink	Mark buffers to protect existing stes from military and recreational impacts.	1,3,4	Number of sites/acres protected	Sites protected?

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04-49	Maintain protective buffers for known nest.	TES 10	0	Craig Ten Brink	Restrict access and airspace around known bald eagle nest site. Inform Range Control when eagles arrive in order to restrict air space.	1,3,4	N/A	Buffers maintained?
04-50	Monitor for nesting activity and nesting success.	TES 10	0	Craig Ten Brink	Monitor known nest for activity.	3,4	N/A	Nest monitored weekly during nesting season?
04-51	Conduct annual surveys for potential nests along New River corridor.	TES 10	0	Craig Ten Brink	Work with state of North Carolina to conduct surveys.	3,4	Number of nests (if applicable).	Surveys conducted?

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04-52	Conduct bi-weekly surveys for piping plover activity in accordance with monitoring protocol for piping plover.	TES 11	0	Craig Ten Brink	Bi-weekly surveys for piping plover activity and nesting.	3,4	Number of surveys conducted. Number of piping plovers.	Surveys completed?
04-53	Protect piping plover habitat from training and outdoor recreation impacts.	TES 11	0	Craig Ten Brink	Protect piping plover habitat. If breeding behavior or nests discovered outside military training portion of beach, these areas will be protected from military training, pedestrians and pets.	1,3,4	Acres of conservation area protected.	Piping plover habitat protected as needed?
04-54	Continue yearly surveys for alligators in likely habitat.	TES 12	0	Craig Ten Brink	Survey for alligators on Mill, Stone, Wallace, French, Duck, Southwest, Muddy, and Whitehurst Creeks, New River watershed.	1,3,4	Number of Alligators observed.	Survey conducted?

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05-01	Designate Conservation Areas (when such protection does not interfere with military training requirements).	COM 01, MIG 01	1	Craig Ten Brink	Designate restricted areas (no vehicles) to protect species at risk, where such designation does not interfere with military training.	1,4,3	Number or areas designated	Conservation areas designated?
05-02	Monitor species at risk.	COM 01	1	Craig Ten Brink	Monitor those species that are not federally listed, but are significantly rare, and have a high percentage of their known population on Camp Lejeune.	1,4,3	Species monitored	Were species at risk monitored?
05-03	Consider the eight high priority natural community types in conservation management.	COM 01, FOR 03	1	Craig Ten Brink	In the course of regular management (primarily the timber prescription process), Camp Lejeune will consider actions that protect and or enhance the quality of the eight high-priority natural community types listed in Appendix M.	1,4,3	N/A	Communities considered in the prescription process?

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05-04	Post waterbird nest sites to discourage pedestrian impacts	TES 05	3	Craig Ten Brink	Post waterbird sites on Onslow Beach to discourage impacts from pedestrians.	1,2,4	Number of areas designated	waterbird sites posted?
05-05	Continue necessary predator control to protect shorebirds	TES 05	3	Craig Ten Brink	Assess the need for predator control to protect shorebirds on Onslow Beach and implement as necessary.	1,2,4	Number of predators removed	Necessary predator control actions taken?
06-01	Participate in/conduct annual Audubon Christmas Bird Count	MIG 01	3	Martin Korenek	Perform a winter bird survey.	1,2,4	Number of surveys	Annual Survey Completed?

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06-02	Participate in/conduct annual International Migratory Bird Day summer bird count.	MIG 01	3	Martin Korenek	Perform a summer bird survey.	1,2,4	Number of surveys	Annual Survey Completed?
06-03	Conduct waterfowl and shorebird surveys in support of South Atlantic Migratory Bird Initiative	MIG 01	3	Martin Korenek	Perform waterfowl and shorebird survey.	1,2,4	Number of surveys	Survey Completed?
06-04	Promote the restoration of native warm season grass habitats with as much associated long leaf pine forest habitat as feasible.	MIG 01	3	Martin Korenek	Plant native warm season grasses during site preparation and long leaf pine conversion activities.	1,2,4	Acres planted in conjunction with site prep activities.	Acres planted in conjunction with site preparation activities?

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06-05	Exclude timber harvesting in bottomland hardwood drains	MIG 01, FOR 02	3	Martin Korenek	Avoid timber harvest in bottomland hardwoods.	1,2,4	N/A	Bottomland areas avoided?
07-01	Develop annual LRSPP	FOR 01	0	Danny Marshburn	LRSPP is a forest vegetation management plan, designed to meet ecosystem management and training mission requirements in accordance with the 2003 Recovery Plan for the RCW.	1,3, 4	N/A	Was the annual plan developed?
07-02	Implement LRSPP	FOR 01	0	Danny Marshburn	Implement the LRSPP as approved and in accordance with the 2003 Recovery Plan for RCW.	1, 3, 4	Number of compartments in the annual LRSPP, where implementation is initiated or under way.	Was the plan implemented?

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07-03	Maintain current and post-harvest timber data	FOR 01	0	Danny Marshburn	Collect timber data and update subject feature classes, in the enterprise geodatabase in eight to ten compartments annually for development of the LRSPP. Collect timber data and update subject feature classes in the enterprise geodatabase in all timber stands.	1, 3, 4	Number of compartments updated	Is the timber data in the enterprise geodatabase current?
07-04	Maintain/upgrade GIS custom tools to adapt to changing data and management processes.	FOR 01	1	Danny Marshburn	These tools are integral to the management process. It is necessary that they are maintained/upgraded as management and data processes or requirements change.	1, 3, 4	Number of tools utilized.	Current tool set is sufficient for all data and process management tasks and functions?
07-05	Utilize pre-commercial thinning.	FOR 02	0	Danny Marshburn	The work is accomplished in naturally regenerated pine stands to reduce stocking levels while the seedlings/saplings are four to five feet high or less. Pre-commercial thinning may also be used in artificially regenerated areas to reduce competition for the seedlings, improve the area for wildlife habitat, and help eliminate the build up of forest fuels while the seedlings are most susceptible to damage from	1, 3, 4	Number of acres precommercial thinned annually	Did precommercial thinning occur?

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07-06	Utilize intermediate thinning.	FOR 02	0	Danny Marshburn	Intermediate thinning promotes a healthy forest by reducing competition for nutrients, sunlight and growing space. Intermediate thins are in accordance with the 2003 RCW Recovery Plan.	1, 3, 4	Number of acres thinned annually.	Did thinning occur?
07-07	As needed, utilize sanitation and/or salvage harvests.	FOR 02	0	Danny Marshburn	This action is dependant on natural disasters or insects and disease outbreaks	1, 3, 4	Number of acres salvaged.	Were salvage cuts initiated as needed?
07-08	Control Southern pine beetle infestations.	FOR 02	0	Danny Becker	Perform Surveillance, ground checks, perform appropriate control actions and monitor sites.		Number of infestations	Were appropriate control actions taken?

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07-09	Reduce the number of acres bedded and/or root-raked to minimize disturbance to desired intact ground cover.	FOR 03	0	Danny Becker	Conserve desired ground cover communities by determining appropriate intensity of site preparation based on soil type, amount of woody competition, desired stocking density, and quality of existing herbaceous ground cover before harvest. Low intensity si	4	Number of acres bedded, number of acres root raked.	Are areas with desired intact ground cover not bedded and/or root raked?
07-10	Maintain/upgrade the Ecosystem Management Model as management and data processes/requirements change.	FOR 03, TES 01	1	Danny Marshburn	The maintenance of the Ecosystem Management Model is integral to the management process--it is necessary that it is upgraded as data requirements change.	1, 3, 4	N/A	Was the Ecosystem Management Model maintained/upgraded?
07-11	Utilize the shelterwood and small patch clearcut methods of natural regeneration for longleaf pine.	FOR 03	0	Danny Marshburn	These methods of natural regeneration will not be utilized until all conversions of long leaf pine within the compartment have been completed.	1, 3, 4	Acres of shelterwood and small patch cuts.	Were shelterwood and small patch clearcut methods utilized if longleaf regeneration needed?

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07-12	Use Best Management Practices for all forestry-related activities	FOR 04, WET 02, SOI 01	0	Danny Marshburn	BMPs are practices chosen to minimize erosion and prevent or control water pollution resulting from forestry operations. When properly applied, BMPs will protect the quality of our waters.	1, 3, 4	N/A	Were BMPs utilized during forestry operations?
07-13	Ensure timber marking compliance.	FOR 04	0	Danny Marshburn	Conduct formal and informal marking operations to ensure timber is being marked in accordance with INRMP guidelines.	1, 3, 4	Number of inspections per marking crew.	Did minimal corrective actions occur during inspection period?
07-14	Ensure timber sales contract compliance.	FOR 04	0	Danny Marshburn	Conduct sales inspections to ensure harvesting is being conducted in compliance with contract guidelines.	1, 3, 4	Number of inspections per timber sale.	Did minimal violations occur during the inspection period?

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07-15	Restore forest structure to a condition more typical of an open longleaf pine by thinning to 60ft basal area.	TES 02, FOR 05	0	Danny Marshburn	Based on requirements of the 2003 RCW Management Plan, pine stands containing stems greater than 10 inches DBH, will be thinned to a residual basal area of 60 sq.ft./acre.	1, 3, 4	Number of acres thinned to 60 sq.ft./acre.	Were acres thinned to residual basal area of 60 sq.ft./acre?
07-16	Understory Restoration in Support of the ESA	FOR 05	0	Danny Becker	Project consists of the collection of native, herbaceous seed and disbursing the seed on areas on which the herbaceous layer has been degraded.	1, 4, 7	Acres accomplished	Areas identified for restoration in cooperation with T&E species program are accomplished?
07-17	Experiment with planting of longleaf pine under loblolly pine stands to retain suitable RCW forage habitat	TES 02, FOR 05	1	Danny Marshburn	Based on forage habitat and longleaf pine conversion requirements, as documented in the 2003 RCW Management Plan, Camp Lejeune will experiment with planting longleaf pine seedlings under an overstory a residual loblolly pine basal area of 40 sq.ft./acre.	4	Number of acres planted in the understory of loblolly pine.	Did planting occur?

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07-18	Provide a sustainable flow of timber products.	FOR 06	0	Danny Marshburn	The harvest of timber products aboard Camp Lejeune is based on the improvement and maintenance of training areas and ecosystem health.	1, 3, 4	Board feet of pine and hardwood harvested annually. Cords of pine and hardwood harvested annually.	Were timber products harvested?
07-19	Promote hard mast producing species.	FOR 06	0	Danny Marshburn	This is contingent on the RCW goals and providing quality habitat for the RCW. This will be in contonment areas and areas where conversion will not occur.	1, 3, 4	Acres of treatment.	Were hard mast producing species promoted?
07-20	Continue forest inventory data collection on a 10 year cycle.	FOR 05	1	Danny Marshburn	Maintain a continous forest inventory on a 10 year schedule	1,3,4	Number of acres surveyed	Was survey competed in 2009?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
08-01	Continue established goal of prescribed burning 20-25K acres per year	PRO1	0	Danny Becker	Perform prescribed burning for hazard fuels reduction, T&E species management, maintenance of open training areas, reforestation, and ecosystem maintenance and restoration	1,2,4	Acres burned	20-25K acres treated by prescribed fire?
08-02	Increase growing season burning to one fourth of total acres treated by prescribed burning per year.	PRO1	0	Danny Becker	Conduct growing season burns for ecosystem maintenance and restoration in support of the ESA	1,2,4	Acres burned	1/4 of total prescribed burn acres completed in the growing season?
08-03	Implement The Prescribed Burning Prioritization Model	PRO 01	3	Danny Becker	Development and implementation of the Prescribed Burning Prioritization Model will enable fire managers to prioritize burning based upon ecological criteria. Areas with less priority will be burned when high priority areas are not available.	1,2,4	N/A	Implemented process?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
08-04	Collect and maintain data on Southern Pine Beetle infestations.	PRO 02	0	Danny Becker	Monitor SPB activity and conduct aerial surveys when required. Collect infestation data by spot number and take appropriate control actions.	1,2	Number of infestations	SPB monitored and data collected?
08-05	Collect and maintain data in the Gypsy Moth Trapping Program.	PRO 02	0	Danny Becker	In cooperation with the Gypsy Moth Trapping Coordinator, USDA Forest Service, place and monitor Gypsy Moth traps. Prepare documentation and record moths trapped. Forward documentation to Trapping Coordinator.	1,2	Traps installed and monitored	Traps installed and monitored. Coordination complete?
08-06	Collect and maintain data on prescribed burning and wildfire suppression activity	PRO 2	0	Danny Becker	Collect data to include dates, personnel, incident type, acreage, location, action taken and follow-up actions. Update GIS data layer.	2, 3, 4	N/A	Data collected?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
08-07	Maintain Fire Weather Stations and Weather Data.	PRO 02	0	Danny Becker	Ensure that at least one of the two forestry owned fire weather stations are operating at all times. Coordinate factory refurbishment of stations as required for maintenance.	1,2,4	N/A	Fire weather stations operating?
08-08	Apply limited suppression strategies to wildfires when safe and appropriate.	PRO3	0	Danny Becker	Apply suppression strategies and tactics appropriate to each wildfire scenario. Limited suppression strategies will be used when appropriate on non-management ignited fires.	1,4	Number of wildfires with limited suppression	Limited suppression strategy implemented?
08-09	Minimize plowlines.	PRO 03	2	Danny Becker	Continue to use natural and manmade barriers to contain prescribed fire spread. This action will minimize the need to construct of new plow lines.	1,3	Miles of new plowlines.	Plowlines minimized?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
08-10	Perform selective harvests and mechanical vegetation control to provide defensible space in identified high hazard areas.		0	Danny Becker	Pine stands within the identified 4 mile high hazard area will be thinned to 50-60 sq. ft. of basal area. Area will then receive mechanical vegetation control in the 200 foot buffer		Acres accomplished	one third of the total area is treated each year?
08-11	Track long-term changes in landscape.	PRO 05	3	Danny Becker	Install a series of photo-points Base-wide to visually monitor vegetation changes. Collect photo data annually.	1,2,4	Install photo-points in FY-06	New photos are taken annually and stored in a digital library?
09-01	Delineate wetlands and update Camp Lejeune's GIS wetland layer.	WET 01	1	Martin Korenek	Delineate jurisdictional wetlands.	1,2,3,5	Acres delineated	Wetlands delineated?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
09-02	Comply with CWA Section 404 permits issued by the USACE for DOD Action on MCBCL.	WET 01, WET 02	1	Martin Korenek	Comply with CWA permit conditions.	1,2,3,5	Number permits issued/Number of Violations	No Notices of Violation (NOV) received?
09-03	Identify and develop suitable wetland restoration areas.	WET 01	2	Martin Korenek	Identify suitable wetland restoration areas, for possible mitigation.	1,2,3,5	Number of sites, number of acres	Sites Identified?
09-04	Monitor Sensitive Wetland Areas to ensure impacts are minimized/mitigated.	WET 02	1	Martin Korenek	Inspect training areas for wetland impacts.	1,2,3,5	Number of inspections/number of impacts.	Sensitive Wetland Areas Monitored?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
09-05	Continue maintenance and monitoring of the GSRA Wetland Mitigation Bank until performance criteria are met.	WET 03	1	Martin Korenek	Comply with GSRA Mitigation Bank Instrument.	1,2,3,5	NA	Annual report submitted to USACE?
09-06	Perform Annual Inspections of the GSRA Mitigation Bank	WET 03	1	Martin Korenek	Inspect roads, water control structures and vegetation in GSRA Mitigation Bank .	1,2,3,5	Annual Report	Annual report submitted to USACE?
10-01	Monitor training effects on soils and coastal dunes.	SOI 01	0	Martin Korenek	Inspect training areas for erosion.	1,2,3,4,5	Number of inspections/Number of Impacts.	Training Effects Monitored?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
10-02	Close selected areas to training use for restoration and recovery of eroded sites.	SOI 01	0	Martin Korenek	Close severely degraded training areas.	1,2,3,4,5	Number of areas closed	Areas identified and closed as needed?
10-03	Use native warm season grasses where practical in restoring eroded sites.	SOI 02	3	Martin Korenek	Plant native warm season grasses on eroded sites.	1,2,3,4,5	Number of acres planted.	Acres planted?
10-04	Implement soil conservation, restoration and maintenance projects.	SOI 02	1	Martin Korenek	Stop soil erosion in training areas.	1,2,3,4,5	Number of projects/acres	Were implemented projects effective?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
10-05	Implement shoreline stabilization projects along New River	SOI 02	3	Martin Korenek	Stabilize eroding shorelines.	1,2,3,4,5	Number of projects/linear feet	Projects implemented?
10-06	Stabilize, enhance, protect and restore coastal dunes using native vegetation and other approved methods within the training section of the beach.	SOI 03	3	Martin Korenek	Promote dune-building.	1,2,3,4,5	Number of plants/area	Military portion of beach stabilized?
11-01	Develop annual wildlife clearing management plan.	WLF 01	0	Martin Korenek	Development of a GIS based Wildlife Clearing Management Plan.	2, 4, 6	N/A	Annual Plan Developed

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-02	Manage wildlife clearings.	WLF 01, REC 02	0	Martin Korenek	Manage (disc, plant, mow) a series of wildlife clearings.	2,4	Acres planted/maintained.	Acres planted/maintained?
11-03	Conduct annual surveys for important game species.	WLF 02	0	Martin Korenek	Annual surveys for deer, quail, turkey, bear, dove	4,6	Number of Surveys	Surveys Conducted?
11-04	Collect data from harvested game species.	WLF 02	0	Martin Korenek	Harvest data collection at 3 maintained check stations.	4	N/A	Harvest data collected?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-05	Maintain NCWRC Cooperator Agent Status for data reporting.	WLF 02, REC 02	3	Martin Korenek	Maintain NCWRC Wildlife Cooperator status for data reporting and harvest authority	4	Agent Numbers	Cooperator Agent Numbers Obtained?
11-06	Manage green-tree reservoirs and impoundments.	WLF 02	0	Martin Korenek	Maintenance activities at green-tree reservoirs and impoundments.	4	Number green-trees, impoundments	Impoundments Maintained?
11-07	Manage artificial nest boxes for wood ducks.	WLF 02	0	Martin Korenek	Maintain a series of artificial nesting structures for wood ducks	4	No. Boxes	Boxes Maintained?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-08	Continue cooperation with NCWRC on restricted airspace access for over-wintering waterfowl surveys.	WLF 02	3	Martin Korenek	Coordinate access along New River for NCWRC/USFWS sponsored winter waterfowl survey	4,6	No. Flights	Coordination Provided?
11-09	Manage shoreline vegetation to promote access for fishing.	WLF 03, REC 02	0	Martin Korenek	Maintenance mowing and vegetation control around recreational fishing ponds	3,4	Miles Shoreline	Shoreline Maintained?
11-10	Manage aquatic vegetation to promote access for fishing.	WLF 03	0	Martin Korenek	Maintain and control shoreline aquatic vegetation at fishing ponds to promote access	3,4	No. Ponds	Ponds Maintained?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-11	Stock game fish within managed Base ponds.	WLF 03, REC 02	3	Martin Korenek	Fisheries Management Services	4	Number of fish stocked	Ponds Stocked?
11-12	Manage pond shoreline depths and water control devices.	WLF 03, REC 02	0	Martin Korenek	Provide cyclic management of pond shorelines and repair/ replace overflow devices	3,4	N/A	Shoreline Depths Maintained?
11-13	Conduct annual fishing creel surveys.	WLF 03	0	Carmen Lombardo	Creel Surveys	4	Surveys	Surveys Conducted?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-14	Monitor fish populations within ponds	WLF 03	0	Carmen Lombardo	Conduct Fisheries Surveys within Ponds	4	N/A	Ponds Monitored?
11-15	Conduct annual amphibian surveys	WLF 04	3	Martin Korenek	Conduct Winter through Summer Auditory Surveys	4	No. Surveys	Survey Conducted?
11-16	Maintain artificial nest boxes for blue birds, purple martins, and other non-game species.	WLF 04	0	Martin Korenek	Maintain nest boxes for blue birds, purple martins, and other non-game birds/mammals.	4	Number of boxes	Boxes Maintained?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-17	Survey natural freshwater depression ponds for native and endemic fishes.	WLF 04	3	Martin Korenek	Survey natural freshwater depression ponds for native fishes and amphibians	4	No. Surveys	Survey Conducted?
11-18	Implement BASH Program.	WLF 05	0	Martin Korenek	Implement a comprehensive BASH Program (Working Group, Harassment, Depredation	6	BASH Actions	Program Implemented?
11-19	Implement Wildlife Damage Management/Control program.	WLF 05	0	Martin Korenek	Implement WDM Program via in-house and contract support	6	N/A	Program implemented?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-20	Maintain updated Special Airfield Depredation permits.	WLF 05	0	Martin Korenek	Maintain USFWS Migratory and NCWRC Wildlife Depredation Permits for MCAS New River	6	Number of Permits	Reports sent to State/USFWS?
11-21	Update other Special Depredation permits to address wildlife damage control situations.	WLF 05	0	Martin Korenek	Obtain Special Depredation Permits for routine wildlife damage management actions.	4,6	No. Permits	Permits obtained?
11-22	Develop educational materials for Base residents and other tenants on preventative measures to reduce wildlife/human interactions.	WLF 05	3	Martin Korenek	Develop education material for the military community to include tenants Units, Base, Residents and others	2,4	N/A	Education material developed?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-23	Respond to nuisance wildlife complaints.	WLF 05	0	Martin Korenek	Provide timely wildlife damage management services to Base tenants and residents	4	No. of Calls	Reports Sent to State?
11-24	Monitor non-native and exotic invasive plant and animal species on Camp Lejeune.	WLF 06	0	Martin Korenek	Monitor the extent of targeted invasive species	4	Number acres	Species Monitored?
11-25	Implement necessary control actions on known infestations of non-native and exotic invasive species.	WLF 06	2	Martin Korenek	Implement necessary control actions on both terrestrial and aquatic invasive species	2,4	Number of populations	Necessary Actions Taken?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
11-26	Establish and Monitor Sentinel Site for Invasive Cactus Moth	WLF 06	2	Martin Korenek	Monitor Cactus Moth Sentinel Site	4	Sites	Site Monitored?
12-01	Promote general public awareness of conservation-based recreational activities on Camp Lejeune.	REC 01	0	John Waters	Promote public education via educational materials and announcements	4	N/A	Promotions made?
12-02	Provide boat-launching access to the general public.	REC 01	0	John Waters	Provide boat launch access permits to general public	4	Number of Permits	Permits issued?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
12-03	Provide hunting and fishing opportunities to general public.	REC 01	1	John Waters	Administration of Permit Sales	4	Number Permits	Permits sold?
12-04	Provide hunting and fishing opportunities to authorized patrons.	REC 02	0	John Waters	Provide hunting and fishing opportunities compatible with military mission.	4	Number of trips/ Number of licenses purchased	Opportunities provided?
12-05	Create designated disabled person hunting areas.	REC 02	3	Martin Korenek	Create a disabled sportsman accessible hunting area.	4	N/A	Area Created?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
12-06	Enforce BO 5090.115	REC 02	0	John Waters	Enforcement activities related to fishing, hunting, and trapping	4	Citations	Base order enforced?
12-07	Sponsor an annual youth fishing event.	REC 02	3	Martin Korenek	Sponsor an Annual Youth Fishing Event during National Fishing Week	4	Events	Event Implemented?
12-08	Monitor beach ORRV use.	REC 03	0	John Waters	Monitor Off-Road Recreational Vehicle Order Compliance.	1, 2, 3, 4, 5	Violations/permits.	Beach use monitored?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
12-09	Send CLEOs to FLETG/NRPT as necessary.	REC 04	0	John Waters	Training for CLEO Staff	4	Training Classes	Necessary training obtained?
13-01	Continue participation in Onslow Bight meetings.	CON 01	3	John Townson	Continue participation in Onslow Bight Meetings	1,2,3,4	Number of meetings in year	Participated in meetings?
13-02	Refine and Update Onslow Bight Conservation Design	CON 01	3	John Townson	Provide input and direction to Onslow Bight Conservation Design areas	1,2,3,4	N/A	Conservation design updated as needed?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
13-03	Collaborate to identify encroachment partnering opportunities.	CON 01	3	John Townson	Work with Encroachment Partners to identify and conserve parcels	1,2,3,4	Number of acres conserved through encroachment partnering in year	Collaboration ongoing?
13-04	Pursue an agreement with USFWS and NCWRC regarding RCW habitat conservation off base.	CON 01	3	John Townson	Explore opportunity for preserving habitat off base in a manner that will eliminate restrictions on base.	1,2,3,4	N/A	Agreement achieved?
14-01	Design and implement an environmental syllabus for different stages of a Marine's career at Camp Lejeune.	EDU 01	2	Martin Korenek	Develop Environmental Syllabus	1,2,4,5,6	Syllabus	Syllabus Developed?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
14-02	Develop protocol to educate visiting foreign units prior to their use of Camp Lejeune.	EDU 01	3	Martin Korenek	Develop Environmental and Natural Resources Base Protocol for Foreign Troops	2,4	No. of Protocols	Protocols Developed?
14-03	Sponsor a Conservation Volunteer Program	EDU 02	3	Martin Korenek	Sponsor Conservation Volunteer Program	4	Number CVP Actions	CVP Sponsored?
14-04	Integrate environmental education into new employee orientation.	EDU 02	3	Martin Korenek	Integrate Env. Education into new employee orientations	2,4	Education Opportunities/Articles	Env. Education Provided to new Employees?

ID_#	Action_Title	Obj_ID	Funding	Lead_POC	Description	Drivers	Unit_of_Measure	Measure_of_Success
14-05	Insert environmental considerations clause into contractual documents.	EDU 02	3	Martin Korenek	Insert Environmental Considerations clause into contracts	2,4	N/A	Clause contained in contracts?
14-06	Conduct television interviews and radio shows for the base TV channel.	EDU 02	3	Martin Korenek	Provide stand-up interviews for important environmental conservation events/information.	2	Interviews	Interviews Conducted?
14-07	Develop a program of field trips and presentations to offer to Camp Lejeune DOD and Onslow County schools.	EDU 02	3	Martin Korenek	Provide outdoor educational opportunities for CLDS and County Schools on a not to interfere basis wit military training	2	No. Trips	Program Developed?