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**Science Advisory Council to the Environmental Management Commission Meeting  
Building 5222  
Camp Edwards, Massachusetts  
May 18, 2017  
5:30 p.m.**

**Meeting Minutes**

<b><u>Members:</u></b>	<b><u>Organization:</u></b>	<b><u>Telephone:</u></b>	<b><u>E-Mail:</u></b>
Dr. Paul Cavanagh	SAC	860-416-3978	conservationscientist@yahoo.com
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Donald Schall	SAC	617-237-6738	redttop1017@icloud.com
Denis LeBlanc	SAC	508-490-5030	dleblanc@usgs.gov
Tara Nye	SAC	774-327-0164	tnye@horseslywitten.com

<b><u>Environmental Officer:</u></b>	<b><u>Organization:</u></b>	<b><u>Telephone:</u></b>	<b><u>E-Mail:</u></b>
Len Pinaud, Acting Environmental Officer	EMC	508-946-2871/508- 968-5127	Leonard.pinaud@state.ma.us

<b><u>Attendees:</u></b>	<b><u>Organization:</u></b>	<b><u>Telephone:</u></b>	<b><u>E-Mail:</u></b>
LTC John Bagaglio	MA ARNG	339-202-3981	John.s.bagaglio.mil@mail.mil
CPT Alexander McDonough	MA ARNG	774-286-1373	Alexander.v.mcdonough.mil@mail.mil
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Jake McCumber	MA ARNG CE	508-968-5848	Jacob.c.mccumber.nfg@mail.mil

**Handouts Distributed at Meeting:**

1. SAC Meeting Minutes for October 13, 2016
2. Massachusetts National Guard Current Activities
3. Proposed EPS Revisions
4. Massachusetts Army National Guard Camp Edwards Update

**Agenda Item #1. Chairperson's Comments – Dr. Paul Cavanagh, Science Advisory Council chair**

Dr. Cavanagh thanked everyone for attending the Science Advisory Council (SAC) meeting.

Dr. Cavanagh discussed Chapter 47 Acts of 2002, which established the Upper Cape Water Supply Reserve and reminded everyone that there are two things that guide the SAC: Chapter 47 of Acts of 2002 and the Environmental Performance Standards. Section two of Chapter 47 of the Acts of 2002 states the

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Reserve shall be public conservation land and be dedicated to (a.) Natural Resource purposes of water supply wildlife habitat protection with development and construction of public water supply systems and (b.) the use and training of the military forces of the Commonwealth provided that such military use and training is compatible to natural resource purposes of water supply and wildlife habitat protection. Chapter 47 of the Acts of 2002 and its associated Environmental Performance Standards are about protecting the drinking water supply for the Upper Cape. At the beginning of the Environmental Performance Standards there is a bullet that lists nine military training activities explicitly banned because of the incompatibility with the natural resource purposes of water supply and wildlife habitat. One is vehicle refueling outside of designated combat service area and fuel pad locations. There will be a presentation on proposed changes to the Environmental Performance Standards and one change is to take vehicle refueling off the banned list and allow it to take place in the Upper Cape Water Supply Reserve. Methodology was presented at the last meeting and there is a "Proof of Concept" that is coming forward within a month. Dr. Cavanagh noted as the council thinks about the proposed changes please consider them in respect to Chapter 47 of the Acts of 2002, which requires the military activities in the Upper Cape Water Supply Reserve to be compatible with the natural resources purposes of water supply and wildlife habitat protection.

**Agenda Item #2: Review of SAC Meeting Minutes - Science Advisory Council**

Dr. Cavanagh stated that the October 13, SAC minutes were reviewed for comments. Mr. Schall commented on a few grammatical changes on page 3, paragraph 6, 2<sup>nd</sup> sentence, change from "around and is challenging" to it's challenging." Page 3, 8<sup>th</sup> paragraph, 2<sup>nd</sup> sentence, change from "breeding birds" to "breeding birds." Page 7, 5<sup>th</sup> paragraph, 1<sup>st</sup> sentence, "Heritage Program" insert full name "Massachusetts Natural Heritage Program." Page 9, paragraph 9, 2<sup>nd</sup> sentence, change from "there will be a permit required and Range Control witnesses the set up" to "will witness the set up." Dr. Cavanagh also commented in paragraph 9, 1<sup>st</sup> sentence that his statement, Dr. Cavanagh "stated" to change to "asked."

Dr. Duggan stated that his email address is dugganj@wit.edu.

Dr. Cavanagh stated that page 2, paragraph 3, 1<sup>st</sup> sentence "overtime based upon sound and "excepted" scientific analysis, change to "accepted scientific analysis."

Dr. Cavanagh stated that on page 6, 1<sup>st</sup> paragraph, 2<sup>rd</sup> sentence, "it's easy for the animals to migrate when the leaves are;" change to "leaves are wet; that date changes from year to year."

Dr. Cavanagh stated that page 4, 3<sup>rd</sup> paragraph, 3<sup>rd</sup> sentence, "Dr. Cavanagh stated that in the past the former state botanist Paul Summers felt that the deer browse may be associated with low grasslands." He commented that he is not sure of the context of the statement he said that in the past according to Paul Summers deer browse has been associated with "broad tinkers weed" leaves and distribution of the rare plant. The October 13 recording was reviewed: In the past the former state botanist Paul Summers felt the deer browse and thyroxine may have been the way it was spread and may be associated with the low grass areas where the deer were bending down.

Ms. Nye stated that there is some inconsistencies with Dr. Duggan and Mr. Duggan. Changes will be made to be consistent.

Dr. Cavanagh asked for a motion to accept the minutes with the revisions as indicated. Mr. Schall made a motion to accept the minutes and Ms. Nye seconded the motion, and all were in favor unanimously.

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**Agenda Item #3: Action Item Review – Len Pinaud, Acting Environmental Officer, Environmental Management Commission**

Mr. Pinaud stated at the last meeting it was suggested that action items be identified and tracked. He noted that Ms. Kelly is keeping track of action items.

Mr. Pinaud presented the following action items:

1. List of action items.
2. Dr. Cavanagh requested a table in the future annual reports that shows the “Big Night” or amphibian movement. The follow up options are to insert in the Annual Report or take the information from the past spring and report at the next meeting in the fall.

Mr. McCumber commented that there will not be specifically a “Big Night.” Dr. Cavanagh said that you will know within a week or so with heavy movement. Mr. McCumber said that with vernal pools you will see movement. Dr. Cavanagh said that the intent is to say we have adjusted the time periods and make sure everything is correct the biggest movements are falling between the adjusted time periods and add it to the Annual Report showing that we are within the terms of the Environmental Performance Standards would be helpful.

3. Dr. Cavanagh requested for a commitment from the Massachusetts National Guard to hear back on amphibian movement verses road closure, which has been discussed.
4. Dr. Duggan requested for a presentation on spill kits and protocols, which will be discussed at the current meeting.
5. Mr. Gschwend had asked where the dunnage ends up in the Army system, which was a carryover action item. What happens to the unexploded ordnance and shock tubes when they’re expended.

Dr. Ciaranca had followed up: when dunnage is turned in it goes to the Defense Logistics Agency (DLA) and the waste is dealt with accordingly. Metals get recycled. The shock tube for the Percussion Actuated Neutralizer can be disposed into the trash. The Massachusetts Army National Guard (MAARNG) abides by local, state and federal regulations.

Mr. Pinaud stated that the waste that goes to DLA either gets recycled or demilitarized. LTC Bagaglio replied that is correct. Mr. Pinaud said that Mr. Gschwend had wanted to know the end phase but after it’s sent to DLA it cannot be tracked. LTC Bagaglio replied no, unless there is a required manifest for hazardous waste and you know when it’s disposed of. Dr. Ciaranca said that there was development of a qualified recycling program for metals, i.e. brass and lead bullets from the ranges which can be recycled.

**Agenda Item 4: Massachusetts National Guard Current Activities –Dr. Mike Ciaranca, Deputy Director, Environmental and Readiness Center**

Dr. Ciaranca discussed the read ahead material sent to SAC members prior to the meeting; he said that its purpose was to supply helpful background information. SAC members felt that the read ahead was worthwhile.

Dr. Ciaranca stated that since the last SAC meeting, COL Magurn received a promotion to Brigadier General.

Mr. Pinaud reminded the SAC that National Grid requested approval from the Environmental Management Commission (EMC) to discharge water from a hydrostatic test into the Reserve. After the meeting, National Grid made a business decision to truck the water off site. A number of trucks pulled the water out of the pipeline and trucked it to a wastewater treatment plant. Dr. Ciaranca noted that the National Grid finished cleaning up and hydroseeding the site. Mr. Pinaud noted that there was no damage to the Reserve.

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Dr. Ciaranca stated that Eversource plans to replace their switching station in the Reserve. There are still some property issues, however there is no update at this time.

Dr. Ciaranca said that the MAARNG is still in ongoing coordination with the Monument Beach Sportsman's Club; safety is the number one concern. When the Club is firing, two training areas must be closed and environmental cleanup is impacted also.

Dr. Ciaranca stated that a tractor trailer rolled over on Frank Perkins Road on May 17. The truck was carrying small arms range soils, which were non-hazardous. The truck rolled over and the soil spilled out; there were no leaks from the truck's fuel tanks or hydraulic tank. Plus or minus a gallon of transmission fuel leaked; that was cleaned up and the soil was barreled and removed. The small arms range soil was loaded on the truck and removed May 18, he noted. The driver of the truck was cited by the police, speeding was the cause of the rollover and the driver was terminated.

Dr. Ciaranca stated that State of Reservation Report was completed and sent out for dissemination. Suggestions for improvement may be made at any time during the year.

Dr. Ciaranca said that the US Environmental Protection Agency (US EPA) has modified Administrative Order 2: the Pilot Period for the STAPP ranges is concluded and the EMC is the recognized authority for Small Arms Range oversight. In addition the MAARNG must conduct five year reviews.

Dr. Ciaranca discussed the metals removal on J Range. Metals must be cleaned out of the STAPP systems after a certain amount of bullets have been fired into the systems. Dr. Ciaranca said that approximately 4,160 lbs. of projectiles were fired into the J Range STAPP system. The weight of the projectiles removed is estimated at 3,800 lbs. He displayed a photo of the STAPP system that showed the demarcation where rounds stopped within the system: approximately 8 inches to 1 foot.

Dr. Ciaranca said that pre and post sampling was conducted; the sampling results at LYJRG003 (lysimeter on J Range) were 141 ppb for Antimony. The action level is 6ppb. Dr. Ciaranca explained that the granular material in the STAPP system was vacuumed out and the metals separated. The granular material was then returned to the system. He explained that an incident occurred with the contractors; the granular material was being pumped back into the system and some escaped the back of the system, blowing dust onto snow-covered ground. He noted that an independent sample was done and nothing was found. There was some bullet penetrations on the STAPP bottom liner. There were two bullet penetrations: one penetrated and one was stuck up in the bottom liner. There were four other pin holes on the STAPP system liner that were patched.

Dr. Duggan asked about the 3,800 lbs. of metal recovered out of 4,160 lbs. Dr. Ciaranca replied that is an estimate of the metals removed. Dr. Duggan asked if it could be dust or powder or fine metal is adding up to much. Dr. Ciaranca said that during inspections, he and the EPA did not see during any fine powder as had been seen on Tango Range. Small fragments were found in the hot spots, but there was no dust. Dr. Duggan said the smaller things that are staying in the energy absorbing material will continue to stay there. Dr. Ciaranca said that may come out as the processes get better. Dr. Duggan suggested to account for sift the material on a weight basis to see what the difference is. Dr. Ciaranca noted he will report back with the weight to Mr. Pinaud (Action).

Dr. Ciaranca reported that construction is complete on Echo Range. Pre-construction sampling was completed and post-construction sampling is being contracted. Split core sampling will be included in the post-construction sampling to establish a baseline before the range is used. Dr. Ciaranca said that the draft Operations, Maintenance, and Monitoring Plan is complete. EMC final approval is forthcoming; it was contingent on the Administrative Order 2 modification.

Dr. Ciaranca discussed split core sampling versus lysimeters, which have always been an issue; there have been elevated antimony levels in some samples. He noted that legacy range soil was used on those

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ranges; that soil was treated with Maectite (a phosphate-based amendment) to inhibit lead mobility; however, phosphate makes antimony more mobile. Levels of lead and copper have remained static, however antimony levels continue to climb. There have been various samples offset from the lysimeters that always come back non-detect. The phosphates were sampled and the range was from 10 to 60,000 ppm for phosphates. The MAARNG has seen this on the STAPP ranges and India Range, a copper range. There are phosphates in the soils and sediments in the lysimeters which may need to be removed and cleaned out. Split core sampling can be used to track metals with depth. The MAARNG can sample down to 200 cm, in 25 cm increments.

Dr. Ciaranca said that on Echo Range, they will take split core samples, one on each side berm, and three on the back berm. Lysimeters and split core sampling will be conducted concurrently this year. At Echo Range, split core sampling on the range floors will be determined through surface soil monitoring. India Range is transitioning to a machine gun familiarization range, using copper ammunition. Because machine guns fire rapidly, there can be deposition at the firing line. In the (historical) data sets, where range floor chemistry (metals) was elevated was anywhere there was machine gun firing. Any place the MAARNG would propose to use machine guns in the future would have surface soil sampling every year or every other year.

Mr. Pinaud asked if there are lysimeters at Echo Range. Dr. Ciaranca replied there are no lysimeters at Echo Range. On other ranges, Dr. Ciaranca said, split core samples will be taken anywhere lysimeters are showing exceeding levels of antimony. Three split core samples will be taken a meter off set from around each of those lysimeters on Juliet, Kilo, India and Tango ranges.

Dr. Ciaranca said that all the Operation Maintenance, and Monitoring Plans will be reviewed and updated. The SAC will be informed of any major updates to those documents.

Dr. Ciaranca said that the MAARNG would like to use a Theatrical Fog Machine as a training aid. A Proof of Concept was conducted during the 2017 Best Warrior Competition to demonstrate and evaluate theatrical fog generators for training use. It was determined that the machine could be used for fixed position scenarios only. The MAARNG conducted pre and post use sampling for propylene glycol and triethylene glycol; there was no detection found post use.

Dr. Cavanagh asked what obscurants were used in the past. Dr. Ciaranca replied that obscurants were classic smoke grenades; the formula hasn't been updated since World War II. Those smoke grenades have three compounds that are not acceptable for use at Camp Edwards. Dr. Cavanagh stated that he is interested in the history of use at Camp Edwards. Dr. Ciaranca replied that smoke grenades were used throughout the training area; he doesn't believe there was any contamination found in relation to their use. Dr. Cavanagh asked if the MAARNG is looking to shift use to a newer, cleaner technology. Dr. Ciaranca replied that there is nothing new available now.

Mr. Pinaud noted that the fog machines have the ability to generate a large cloud of smoke but during the Best Warrior Competition it was raining so the smoke dissipated rapidly. He asked if the MAARNG would be using the fog machine again. Dr. Ciaranca replied more evaluation may be needed for effectiveness and efficiency of use with fixed scenarios. LTC Cody stated that fog machines will be reviewed for operation with fixed objectives.

Dr. Duggan asked about the health effects to the soldiers. Dr. Ciaranca replied there is a public health command, formerly CHPPM, which has literature on the potential impacts of soldier health. Dr. Duggan asked if it is an irritant. Dr. Ciaranca said that there is a report of one opera singer exposed to so much smoke/fog during many performances that it did damage her lungs. He said that training is a different scenario because it is short term exposure.

**Agenda Item 5: Proposed Environmental Performance Standards Revisions – Dr. Mike Ciaranca, Deputy Directory, Environmental and Readiness Center**

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Dr. Ciaranca stated that a revision to EPS 2.7 was proposed on 10 January 2017, approved, and revised. The SAC and CAC provided input and support of the request at their last meetings. The EMC approved the revised EPS on 8 October 2017. The EPS revision was placed in the “Environmental Monitor” on 15 February 2017 and didn’t receive any comments. The EPS was updated and published on 6 April 2017. The EPS document will be disseminated to all relevant parties and documents will be updated as they come up for review and in the State of Reservation Report.

Dr. Ciaranca discussed EPS 15.3.3: which states “No storage or movement of fuels for supporting field activities, other than in vehicle fuel tanks, will be permitted except in approved containers no greater than five gallons in capacity.”

Dr. Ciaranca stated that the MAARNG is requesting: to allow refueling of remediation contractors, resource management, and military vehicles within the Reserve/Training Area while being compatible with the intent of Chapter 47 so that habitat and groundwater remain protected. Exceptions to the standard have been made for contractor refueling as it was not practical.

Dr. Ciaranca said the MAARNG will conduct a Proof of Concept to demonstrate the feasibility of conducting field refueling activities in the Reserve.

Dr. Ciaranca stated that the date for conducting the proposed Proof of Concept is 11-13 June 2017 at Battle Positions (BP) 14 and 16 at Camp Edwards.

CPT McDonough stated that BP 14 and 16 were chosen because there is enough cleared space for a helicopter to land. The fueling company will set up their containment systems with a joint inspection by Range Control, the EMC, and the Environmental & Readiness Center (E&RC) to verify the containment system. The containment system consists of the fueler setting up on a big pad weighted specifically and only the amount of fuel needed is in the fueler; fuel is tracked and logged by the fuel specialist. He noted that the fuelers are operated by Army-trained specialists. After the operation is complete, Range Control will go out with the EMC and E&RC and conduct an inspection to make sure the site is cleaned up. There will be spill kits and fire suppression, and any incident requires a notification protocol immediately. The containment system holds up to 5,000 gallons.

LTC Bagaglio stated that the Proof of Concept will demonstrate how refueling is completed in the field and will show the additional controls that the MAARNG uses. The EPS 15.3.3 currently states refueling is allowed in the Reserve but is limited to a 5 gallon can; the method using the tanker is safer.

Dr. Ciaranca said the 5 gallon cans in the back of a pickup truck is not conducive to protecting the resources.

LTC Bagaglio stated that the cleanup programs and contractors are exempt from the refueling EPS. In twenty years there hasn’t been a problem; the MAARNG is asking to be allowed to refuel the same as the cleanup programs and contractors. LTC Bagaglio stated that since 2002, there hasn’t been a spill in the Reserve due to training, 9 out of 10 spills were hydraulic fuel which is cleaned up.

Dr. Cavanagh stated that you can refuel for remediation, refueling was not a problem at the time the EPSs were written, it was an “unnecessary evil,” that was the way it was perceived. There shouldn’t be any activities that would pose a threat. The intent was not to have refueling tanks but that can change over time. He asked, has it changed enough and are we ensuring the safety of that vehicle carrying a maximum of 1,500 gallons. Containment is not the bigger question, it is the safe transport of 1,500 gallons because there will not be a spill pad under the vehicle during travel. Dr. Cavanagh said that he expressed to Mr. Pinaud that his concern is a truck rolling over. He would like to see who in the Army nationwide is tracking miles driven and incidents of major accidents. Dr. Cavanagh said that the issue is transportation and ensuring the safety of transporting 1,500 gallons through the Reserve.

Dr. Cavanagh stated he would like to know how, over time, have the technology and approach changed, and the Army’s nationwide safety record. One of the sad realities of training is people get injured and people get killed on occasion and accidents do happen, he said.

LTC Bagaglio stated that no one is saying that there never will be an accident; the proposed revision is for refueling activities not transport. Refueling activities is the transfer of fuel from one vehicle to another which

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is different than driving a truck to the fuel point. He said that there are people who are not the National Guard members who have been given exceptions to drive trucks full of fuel into the Reserve on numerous occasions previously.

Dr. Cavanagh stated that transport is the question and remediation activities are exempt for refueling because it was necessary to ensure the protection of the groundwater. He is not opposed to the revision but would like to see some numbers on the safety record of the vehicle transporting fuel. LTC Bagaglio replied that the MAARNG will provide both the military and civilian safety records of the vehicles transporting the fuel and compare. (Action)

CPT McDonough said that there is hypervigilance for activities in the Reserve. For example, he said, the recent truck rollover was spotted within five minutes and within a half hour there was a MAARNG Range Officer and hazardous waste representative on the scene. There was preparation to respond in whatever way was necessary. He said we can't control whether something bad happens, we can only have a plan in place for that worst case scenario. As a range officer, he would argue that Camp Edwards has a very vigilant and fast response to issues.

LTC Cody stated that he was one of the primary authors of the EPSs and when those were written, the water wells weren't identified. The wells are now identified and the MAARNG can ensure that they are avoided. The request is for required training events to train the soldiers that are fuel handlers, and one of the training requirements is for an MP company is to set up refueling areas. Units will be given the exact location and there will be supervision, he noted.

Mr. Pinaud stated that EPS 15.3.3. states there's no storage or movement of fuels supporting field activities. The movement of fuels across the Reserve would be restricted under the current EPS.

Dr. Duggan asked if there are stationary fueling pads and would the majority of the refueling will occur as part of the training. LTC Cody replied by the UTES site there is a refueling point and wash rack and that is where 99 percent of the refueling takes place. Dr. Duggan asked if that is part of the tactical training for refueling so that the fuel specialists and the other personnel can become familiar with the process under controlled conditions. LTC Cody replied that is correct.

Dr. Duggan stated that at other sites without stationary permanent refueling that the MAARNG will use secondary containment, not a permanent installation, and the secondary containment is going to have the capacity for the amount of fuel being delivered. CPT McDonough replied the secondary containment has the capacity for the maximum amount of fuel that the fueler carries.

Dr. Duggan asked if the fueler drives onto the containment system. CPT McDonough said the fueler drives on to the containment system, and there also is secondary containment at the point where the refueling happens.

LTC Bagaglio stated that a combination of a spill pad and drip pan will be used. He said if the fueler is set up with secondary containment and Humvee is pulled up to fueler, the hose is brought over to the Humvee to fuel it; there is containment under the fill of the Humvee.

CPT McDonough displayed a photo of the refueling and containment pad, which is rated for the full capacity of the fueler, and the fuel hose, which has secondary containment (a drip pan) at the vehicle. It is logged and the amount of fuel on site is recorded.

Mr. Pinaud stated that one of the concerns are the unimproved roads and how a truck could travel down some of the roads that aren't in good condition. LTC Bagaglio stated that it is a vehicle designed to be tactical and driven in conditions that aren't commercial roads. Mr. Pinaud noted that some of the roads are pitched. LTC Bagaglio noted the vehicle is designed to traverse that.

LTC Cody stated that the convoys and routes are approved by Range Control. CPT McDonough explained that as part of a unit's training exercise, they conduct a site review: the leader of the squad will drive down the road they may be utilizing to see if it's navigable, additionally the unit has to provide an operational overlay in accordance with the routes.

Mr. Pinaud requested the option for overlay and alternative routes be added to the document. CPT McDonough said that it was omitted because it is a Standard Operating Procedure (SOP) for Range Control.

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Mr. LeBlanc asked if the vehicles are primarily diesel or gasoline. LTC Cody replied they are the jet fuel diesel that is used for all the systems. Mr. LeBlanc said that part of the plan to allow the fueling to happen are the specific protocols and guidance for the whole transportation of the fuel and certain roads are off limits and there will be speed limits. CPT McDonough noted that units will be briefed with SOPS. Units are required to follow local rules and regulations involved in the fueling.

Mr. LeBlanc stated the likelihood of a major spill is small with procedures keeping fuelers away from close proximity to public supply wells where they are directly upgradient. He said that protocols should not be designed to rely on natural degradation as the first line of defense. But well designed and monitored procedures for fuel transportation and handling, when coupled with the assimilative capacity of the aquifer, should be protective of groundwater quality in the Reserve.

Ms. Nye stated that the system has to be built on the worst case scenario. CPT McDonough said that is standard and built into the plan for Range Control with close communication with the environmental programs.

Mr. LeBlanc stated the MAARNG should be built into the plan where it is safe to fuel and take advantage of the transport time to protect the resource because if there was a spill in a sensitive area, the impact would be instantaneous.

Dr. Duggan asked if when the contractors refuel do they use large trucks or a tank mounted on the back of a truck. LTC Cody replied they use a mounted tank unless it's a large project. Dr. Duggan stated that the contractor is different than average. CPT McDonough replied military contractors are able to handle the combat environment. Dr. Duggan said for the non tactical, there will be a record of what vehicles are going to be in need of refueling which will be on the spill pads. LTC Cody stated that not every unit has fuelers.

Dr. Duggan asked what is the range in capacity of the fuel tanks. LTC Bagaglio replied that a Humvee has an approximately 25 gallon tank, a D-7 dozer has 250 gallon tank. Dr. Duggan stated that before fuel is dispensed, a 100 gallon spill containment system is installed because it's estimated to be 100 gallons. LTC Cody said that the containment will be 110 percent of the aggregate of the fuel.

Dr. Duggan stated that instead of a five gallon pail, the MAARNG may consider having a spill pad under the vehicle. LTC Bagaglio replied that a spill pad will be on the ground. Dr. Duggan asked if the pad is part of the standard protocol. CPT McDonough responded that the spill pad is part of the standard protocol.

Mr. Pinaud said the project note needs more work and should incorporate comments from the SAC. He said there should be more secondary containment and roads should be identified that would be used by the truck to traverse to the location. The location should be reviewed to see if there is a place that could be used that is closer to the edge of the Reserve. All the comments will be built into the final Proof of Concept.

Dr. Cavanagh said that he isn't saying "no," but is asking if refueling can be done in other areas. If not, then the question is, is can it be done in a manner that makes it the most compatible. It would be better for all if it could take place somewhere outside of an area regulated by the Environmental Performance Standards.

LTC Cody stated that for 17 years, the MAARNG has been refueling outside of the Reserve. He said that the MAARNG will restrict units from sensitive areas and restrict them from bad roads.

Dr. Cavanagh asked what has changed. LTC Cody replied that units cannot get certified outside of the Reserve; they have to refuel in a tactical environment when the units are operating in the bivouac area. Since they cannot certify as trained at Camp Edwards, units have to leave the area to be trained. There will be controls in place, he noted.

Dr. Cavanagh stated that it must be considered with a discussion and intense focus.

Ms. Nye stated that the habitat should be considered when locating the area. When the MAARNG is looking at the stations and roads, the habitat must be taken into consideration; when locating look at habitat, water, wells, and other variables not only roads and soldier access.

Mr. Pinaud said he will bring the SAC's feedback to the Community Advisory Council.

**Agenda Item 6: Natural Resources Update, Jake McCumber, Natural Resources ITAM Program Manager, MA ARNG**

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Mr. McCumber displayed a photo explained that in January 2017 there was a North Atlantic Fire Science Exchange held on Camp Edwards with almost 60 fire scientists and practitioners from Virginia to Maine in attendance to learn about the fire program at Camp Edwards.

Mr. McCumber said that the Natural Resource Program is conducting ongoing acoustic surveys and regional coordination for bats. There will be no netting this year.

Mr. McCumber discussed the Whip-poor-will annual survey; they have conducted mist netting for Whip-poor-wills at one of three sites with overwintering. He said that through a legacy grant, Upland Sandpiper migration was tracked from Camp Edwards to the Amazon and back.

Mr. McCumber said that the Rusty-patched bumble bee was federally listed under the Endangered Species Act; the Natural Resource Program has been conducting surveys throughout training area; there are no records of them on Camp Edwards. One of twenty locations known for that species in the past ten years was in Harwich in 2000. Ms. Nye asked if the rusty patched bumble bee is federally or state listed. Mr. McCumber replied it is federal listed as endangered. The program is managing the grasslands for diverse flowering plants, he noted.

Mr. McCumber said that the program has conducted surveys for Frosted elfin through training area; the Frosted elfin is under consideration for federal listing and the program is conducting a status review on that now. They are working with the US Fish and Wildlife Service on a range-wide conservation strategy for that species.

Mr. McCumber gave a summary of the activities for rabbits including pellet searches, coordination with the range-wide Conservation Technical Committee and diet analysis on some of the pellets. There was work searching for New England cottontail using wildlife dogs which confirmed that the New England cottontail are in the low density area with the types of habitat i.e. scrub oak.

Mr. McCumber said that another species under consideration for federal listing is the spotted turtle. The program has conducted spotted turtle trapping/tracking on base.

Mr. McCumber reported that in Fall 2016, 82 acres were burned with prescribed fire along with 24 acres of grassland area. In Spring 2017, 86 acres were burned in the Southwest buffer unit, with 323 more planned (4 units). He said also there is an interagency team assisting the Division of Fisheries and Wildlife with prescribed fire program development and planning.

Mr. McCumber gave an update on non-fire restoration efforts including grassland management collaborations and invasive plant management; OP 1 through OP 4 habitat improvement, and BP 27 and BP 28 rehabilitation. Pitch pines were removed for native grasses to grow, benefiting both training and the habitat. One upcoming project is over story thinning on Wood Road.

Mr. McCumber also gave an update on emerging or recurring threats including the impact of Gypsy moths on the state and the base; the Southern pine beetle has devastated pines in New Jersey and Long Island. Best management practices are tree thinning combined with prescribed fire, and proactive timber thinning with 20-foot tree spacing. The Natural Resources Program is coordinating with the National Forest Service and is planning pine barrens restoration projects.

Dr. Cavanagh asked if the MAARNG paid to have the trees removed. Mr. McCumber replied the MAARNG paid for the tree removal. A forestry plan was provided to the Department of Conservation and Recreation, Mass Wildlife, and the Natural Heritage and Endangered Species Program. Forest thinning is planned for the Northwest Corner. Mr. Pinaud commented that the forest thinning was good for military training because OP 1 is useable.

Mr. McCumber summarized the hunting activities: the Fall 2016 deer hunt was a total of 17 days, 899 hunter days, with 45 deer harvested; 12 hunters participated in the youth hunt this spring, taking 5 turkeys, and 13 turkeys were harvested during the regular season.

#### **Agenda Item #6: Public Comment**

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There was no public comment.

**Agenda Item #7. Adjourn**

The meeting was adjourned at 7:30 p.m.