



Date: March 15, 2018

TO: DISTRIBUTION

RE: DESERT CONSERVATION PROGRAM PROJECT COMPLETION NOTIFICATION:  
**EVALUATION OF DRONE-BASED, AUTOMATIC  
DESERT TORTOISE DETECTABILITY  
2017-BRAINLIKE-1785A**

The work for the above referenced project has been completed. Please see the attached for all project related information.

**The purpose of the above referenced project was:**

To use drones along with automatic image detection software that will offer more coverage, better precision and/or more coverage at a lower cost to detect desert tortoise on the Boulder City Conservation Easement.

**The major accomplishment or findings of this project include:**

The project area was flown with drones and photographed to create a 1cm resolution orthomosaic grid on back to back days. Change detection was used to look for differences between the two days. The process was able to detect the two known tortoises to be above ground in the area at the time of the flight showing that the method would be useful for detecting tortoises above ground; however, further tests showed that, at that resolution, tortoises would be indistinguishable from vegetation. More work is needed to show that tortoises under vegetation can be located with higher resolution cameras. Currently, this method would be able to detect all tortoises above ground and not obstructed by vegetation over a larger area and cheaper than current methods but with lower detection overall due to the limitations.

For more information about this project and/or for other Project Reports or Symposium Reports, please visit our website at: <http://www.clarkcountynv.gov/airquality/dcp/Pages/default.aspx>

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4701 W Russell Road, Suite 200, Las Vegas, NV 89118 • Phone 702.455.3536 • FAX 702.382.4593

If you have any questions, please contact Scott Cambrin at (702) 455-3859.

Sincerely,



Marci D. Henson  
Director, Air Quality  
Administrator, MSHCP

cc:

US Fish and Wildlife Service  
Board of County Commissioners (7)  
Permittees' Executive Committee  
Permittees' Process Management Group  
Thomas Boldt, Purchasing  
Catherine Jorgenson, District Attorney – Civil Division  
Desert Conservation Program Community Advisory Committee  
Desert Conservation Program Interested Parties List  
Multiple Species Habitat Conservation Plan Implementing Agencies  
Science Advisor  
SNPLMA Office (for SNPLMA projects)  
Congressional Office  
DCP Staff

# DESERT CONSERVATION PROGRAM PROJECT COMPLETION NOTICE

**Date of Issuance: 3/15/2018**

## General Project Information

Project Category	Conservation
Compliance Category	9d-Research/Inventory/Monitoring
Project Level	Level 3
Project Title	Eval Drone-Based Auto DT Detectability
Project Number	2017-BRAINLIKE-1785A
Contractor	Brainlike, Inc.
Contractor Person of Contact	Robert Jannarone
Contractor Project Manager	Robert Jannarone
DCP Project Manager	Scott Cambrin
DCP Person of Contact/Contract Manager	Heather Green
Competitive Award or Sole Source	Competitive Award
Contract Start Date	09/18/2017
Purchase Order Number	4500270783-012
Contract End Date	01/31/2018
Commissioner & District	A Steve Sisolak
Congressional Rep & District	D3 Jacky Rosen

## Financial Breakdown

Funding Source	S10 17-19
Original Contract Amount	\$ 49,999.00
Total Change Request Amount	0.00
Revised Contract Amount	\$ 49,999.00
<small>(Original Award plus Change Requests)</small>	
Funds Not Used in Contract	0.00
Final Payout Amount	\$ 49,999.00

## Performance Information

Total Number of Change Requests	0
Number of Change Requests by Contractor	
Number of Change Requests by DCP	
Total Number of Deliverables	6
Number of Deliverables Accepted	6
Number of Deliverables Rejected	0
Number of Delinquent Deliverables	0
Total Number of Milestones	7
Number of Delinquent Milestones	7
Number of Milestones Met on Time	0
Total Number of Invoices Submitted	6
Number of Rejected Invoices	0