

Return of Organization Exempt From Income Tax

OMB No. 1545-0047

Under section 501(c), 527, or 4947(a)(1) of the Internal Revenue Code (except private foundations)

▶ Do not enter social security numbers on this form as it may be made public.

▶ Go to www.irs.gov/Form990 for instructions and the latest information.**2018****Open to Public Inspection**Department of the Treasury
Internal Revenue Service

A For the 2018 calendar year, or tax year beginning 2018 , and ending 20																															
B Check if applicable:	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">C Name of organization <u>Rare Species Conservatory Foundation</u></td> </tr> <tr> <td colspan="2">Doing business as</td> </tr> <tr> <td>Number and street (or P.O. box if mail is not delivered to street address)</td> <td>Room/suite</td> </tr> <tr> <td><u>1222 E Road</u></td> <td></td> </tr> <tr> <td colspan="2">City or town, state or province, country, and ZIP or foreign postal code</td> </tr> <tr> <td colspan="2"><u>Loxahatchee, FL 33470</u></td> </tr> <tr> <td colspan="2">F Name and address of principal officer:</td> </tr> <tr> <td colspan="2"><u>Paul R Reillo, 1222 E Road, Loxahatchee, FL 33470</u></td> </tr> <tr> <td colspan="2">D Employer identification number</td> </tr> <tr> <td colspan="2"><u>65-0560456</u></td> </tr> <tr> <td colspan="2">E Telephone number</td> </tr> <tr> <td colspan="2"><u>(561) 790-5864</u></td> </tr> <tr> <td colspan="2">G Gross receipts \$ <u>1,772,534.</u></td> </tr> <tr> <td colspan="2"> H(a) Is this a group return for subordinates? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No H(b) Are all subordinates included? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No," attach a list. (see instructions) H(c) Group exemption number ▶ </td> </tr> <tr> <td colspan="2"> I Tax-exempt status: <input checked="" type="checkbox"/> 501(c)(3) <input type="checkbox"/> 501(c) () ◀ (insert no.) <input type="checkbox"/> 4947(a)(1) or <input type="checkbox"/> 527 J Website: ▶ <u>Rarespecies.org</u> K Form of organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Trust <input type="checkbox"/> Association <input type="checkbox"/> Other ▶ L Year of formation: <u>1994</u> M State of legal domicile: <u>FL</u> </td> </tr> </table>	C Name of organization <u>Rare Species Conservatory Foundation</u>		Doing business as		Number and street (or P.O. box if mail is not delivered to street address)	Room/suite	<u>1222 E Road</u>		City or town, state or province, country, and ZIP or foreign postal code		<u>Loxahatchee, FL 33470</u>		F Name and address of principal officer:		<u>Paul R Reillo, 1222 E Road, Loxahatchee, FL 33470</u>		D Employer identification number		<u>65-0560456</u>		E Telephone number		<u>(561) 790-5864</u>		G Gross receipts \$ <u>1,772,534.</u>		H(a) Is this a group return for subordinates? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No H(b) Are all subordinates included? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No," attach a list. (see instructions) H(c) Group exemption number ▶		I Tax-exempt status: <input checked="" type="checkbox"/> 501(c)(3) <input type="checkbox"/> 501(c) () ◀ (insert no.) <input type="checkbox"/> 4947(a)(1) or <input type="checkbox"/> 527 J Website: ▶ <u>Rarespecies.org</u> K Form of organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Trust <input type="checkbox"/> Association <input type="checkbox"/> Other ▶ L Year of formation: <u>1994</u> M State of legal domicile: <u>FL</u>	
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Part I Summary

Activities & Governance	1	Briefly describe the organization's mission or most significant activities: <u>International wildlife conservation, biodiversity and habitat protection; endangered and threatened species propagation, management and recovery programs.</u>		
	2	Check this box <input type="checkbox"/> if the organization discontinued its operations or disposed of more than 25% of its net assets.		
	3	Number of voting members of the governing body (Part VI, line 1a)	3	4
	4	Number of independent voting members of the governing body (Part VI, line 1b)	4	4
	5	Total number of individuals employed in calendar year 2018 (Part V, line 2a)	5	14
	6	Total number of volunteers (estimate if necessary)	6	0
	Revenue	7a	Total unrelated business revenue from Part VIII, column (C), line 12	7a
b		Net unrelated business taxable income from Form 990-T, line 38	7b	0.
8		Contributions and grants (Part VIII, line 1h)	Prior Year	Current Year
9		Program service revenue (Part VIII, line 2g)	758,603.	1,760,137.
10		Investment income (Part VIII, column (A), lines 3, 4, and 7d)	4,993.	5,365.
11		Other revenue (Part VIII, column (A), lines 5, 6d, 8c, 9c, 10c, and 11e)	15,831.	7,032.
12		Total revenue—add lines 8 through 11 (must equal Part VIII, column (A), line 12)	779,427.	1,772,534.
13		Grants and similar amounts paid (Part IX, column (A), lines 1–3)	183,080.	116,283.
14		Benefits paid to or for members (Part IX, column (A), line 4)		
Expenses		15	Salaries, other compensation, employee benefits (Part IX, column (A), lines 5–10)	196,731.
	16a	Professional fundraising fees (Part IX, column (A), line 11e)		
	b	Total fundraising expenses (Part IX, column (D), line 25) ▶	0.	
	17	Other expenses (Part IX, column (A), lines 11a–11d, 11f–24e)	231,968.	327,506.
	18	Total expenses. Add lines 13–17 (must equal Part IX, column (A), line 25)	611,779.	697,060.
	19	Revenue less expenses. Subtract line 18 from line 12	167,648.	1,075,474.
Net Assets or Fund Balances	20	Total assets (Part X, line 16)	Beginning of Current Year	End of Year
	21	Total liabilities (Part X, line 26)	2,306,922.	3,371,307.
	22	Net assets or fund balances. Subtract line 21 from line 20	5,171.	0.
			2,301,751.	3,371,307.

Part II Signature Block

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than officer) is based on all information of which preparer has any knowledge.

Sign Here		<u>11 May 2019</u>	
	Signature of officer	Date	
	<u>Paul Reillo PhD., President</u>		
	Type or print name and title		
Paid Preparer Use Only	Print/Type preparer's name	Preparer's signature	Date
	<u>Robert J Thomas</u>		<u>5/11/19</u>
	Firm's name ▶ <u>ROBERT J THOMAS CPA</u>	Check <input type="checkbox"/> if self-employed	PTIN <u>P00337434</u>
	Firm's address ▶ <u>430 SW JEFFERSON CIR, PORT ST LUCIE, FL 34986</u>	Firm's EIN ▶	Phone no. <u>(772) 285-3220</u>

May the IRS discuss this return with the preparer shown above? (see instructions) ☒ Yes ☐ No

Part III Statement of Program Service AccomplishmentsCheck if Schedule O contains a response or note to any line in this Part III ☐**1** Briefly describe the organization's mission:

International wildlife conservation; biodiversity and habitat
protection; endangered and threatened species propagation, management
and recovery programs; capacity building and outreach

2 Did the organization undertake any significant program services during the year which were not listed on the prior Form 990 or 990-EZ? ☐ Yes ☒ No

If "Yes," describe these new services on Schedule O.

3 Did the organization cease conducting, or make significant changes in how it conducts, any program services? ☐ Yes ☒ No

If "Yes," describe these changes on Schedule O.

4 Describe the organization's program service accomplishments for each of its three largest program services, as measured by expenses. Section 501(c)(3) and 501(c)(4) organizations are required to report the amount of grants and allocations to others, the total expenses, and revenue, if any, for each program service reported.**4a** (Code:) (Expenses \$ 690,204. including grants of \$ 0.) (Revenue \$ 0.)

Endangered species propagation and management programs - Rare
Species Conservatory in Loxahatchee, FL
See Statement of Program Service Accomplishments attached

4b (Code:) (Expenses \$ 116,332. including grants of \$ 0.) (Revenue \$ 0.)

International in situ wildlife/biodiversity conservation
Programs
See Statement of Program Service Accomplishments attached

4c (Code:) (Expenses \$ including grants of \$) (Revenue \$)**4d** Other program services (Describe in Schedule O.)

(Expenses \$ including grants of \$) (Revenue \$)

4e Total program service expenses **▶** 806,536.

Part IV Checklist of Required Schedules

	Yes	No
1 Is the organization described in section 501(c)(3) or 4947(a)(1) (other than a private foundation)? <i>If "Yes," complete Schedule A</i>	1 <input checked="" type="checkbox"/>	<input type="checkbox"/>
2 Is the organization required to complete <i>Schedule B, Schedule of Contributors</i> (see instructions)?	2 <input checked="" type="checkbox"/>	<input type="checkbox"/>
3 Did the organization engage in direct or indirect political campaign activities on behalf of or in opposition to candidates for public office? <i>If "Yes," complete Schedule C, Part I</i>	3 <input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Section 501(c)(3) organizations. Did the organization engage in lobbying activities, or have a section 501(h) election in effect during the tax year? <i>If "Yes," complete Schedule C, Part II</i>	4 <input type="checkbox"/>	<input checked="" type="checkbox"/>
5 Is the organization a section 501(c)(4), 501(c)(5), or 501(c)(6) organization that receives membership dues, assessments, or similar amounts as defined in Revenue Procedure 98-19? <i>If "Yes," complete Schedule C, Part III</i>	5 <input type="checkbox"/>	<input checked="" type="checkbox"/>
6 Did the organization maintain any donor advised funds or any similar funds or accounts for which donors have the right to provide advice on the distribution or investment of amounts in such funds or accounts? <i>If "Yes," complete Schedule D, Part I</i>	6 <input type="checkbox"/>	<input checked="" type="checkbox"/>
7 Did the organization receive or hold a conservation easement, including easements to preserve open space, the environment, historic land areas, or historic structures? <i>If "Yes," complete Schedule D, Part II</i>	7 <input type="checkbox"/>	<input checked="" type="checkbox"/>
8 Did the organization maintain collections of works of art, historical treasures, or other similar assets? <i>If "Yes," complete Schedule D, Part III</i>	8 <input type="checkbox"/>	<input checked="" type="checkbox"/>
9 Did the organization report an amount in Part X, line 21, for escrow or custodial account liability, serve as a custodian for amounts not listed in Part X; or provide credit counseling, debt management, credit repair, or debt negotiation services? <i>If "Yes," complete Schedule D, Part IV</i>	9 <input type="checkbox"/>	<input checked="" type="checkbox"/>
10 Did the organization, directly or through a related organization, hold assets in temporarily restricted endowments, permanent endowments, or quasi-endowments? <i>If "Yes," complete Schedule D, Part V</i>	10 <input type="checkbox"/>	<input checked="" type="checkbox"/>
11 If the organization's answer to any of the following questions is "Yes," then complete Schedule D, Parts VI, VII, VIII, IX, or X as applicable.		
a Did the organization report an amount for land, buildings, and equipment in Part X, line 10? <i>If "Yes," complete Schedule D, Part VI</i>	11a <input checked="" type="checkbox"/>	<input type="checkbox"/>
b Did the organization report an amount for investments—other securities in Part X, line 12 that is 5% or more of its total assets reported in Part X, line 16? <i>If "Yes," complete Schedule D, Part VII</i>	11b <input type="checkbox"/>	<input checked="" type="checkbox"/>
c Did the organization report an amount for investments—program related in Part X, line 13 that is 5% or more of its total assets reported in Part X, line 16? <i>If "Yes," complete Schedule D, Part VIII</i>	11c <input type="checkbox"/>	<input checked="" type="checkbox"/>
d Did the organization report an amount for other assets in Part X, line 15 that is 5% or more of its total assets reported in Part X, line 16? <i>If "Yes," complete Schedule D, Part IX</i>	11d <input type="checkbox"/>	<input checked="" type="checkbox"/>
e Did the organization report an amount for other liabilities in Part X, line 25? <i>If "Yes," complete Schedule D, Part X</i>	11e <input checked="" type="checkbox"/>	<input type="checkbox"/>
f Did the organization's separate or consolidated financial statements for the tax year include a footnote that addresses the organization's liability for uncertain tax positions under FIN 48 (ASC 740)? <i>If "Yes," complete Schedule D, Part X</i>	11f <input type="checkbox"/>	<input checked="" type="checkbox"/>
12a Did the organization obtain separate, independent audited financial statements for the tax year? <i>If "Yes," complete Schedule D, Parts XI and XII</i>	12a <input type="checkbox"/>	<input checked="" type="checkbox"/>
b Was the organization included in consolidated, independent audited financial statements for the tax year? <i>If "Yes," and if the organization answered "No" to line 12a, then completing Schedule D, Parts XI and XII is optional</i>	12b <input type="checkbox"/>	<input checked="" type="checkbox"/>
13 Is the organization a school described in section 170(b)(1)(A)(ii)? <i>If "Yes," complete Schedule E</i>	13 <input type="checkbox"/>	<input checked="" type="checkbox"/>
14a Did the organization maintain an office, employees, or agents outside of the United States?	14a <input type="checkbox"/>	<input checked="" type="checkbox"/>
b Did the organization have aggregate revenues or expenses of more than \$10,000 from grantmaking, fundraising, business, investment, and program service activities outside the United States, or aggregate foreign investments valued at \$100,000 or more? <i>If "Yes," complete Schedule F, Parts I and IV</i>	14b <input checked="" type="checkbox"/>	<input type="checkbox"/>
15 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of grants or other assistance to or for any foreign organization? <i>If "Yes," complete Schedule F, Parts II and IV</i>	15 <input checked="" type="checkbox"/>	<input type="checkbox"/>
16 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of aggregate grants or other assistance to or for foreign individuals? <i>If "Yes," complete Schedule F, Parts III and IV</i>	16 <input type="checkbox"/>	<input checked="" type="checkbox"/>
17 Did the organization report a total of more than \$15,000 of expenses for professional fundraising services on Part IX, column (A), lines 6 and 11e? <i>If "Yes," complete Schedule G, Part I (see instructions)</i>	17 <input type="checkbox"/>	<input checked="" type="checkbox"/>
18 Did the organization report more than \$15,000 total of fundraising event gross income and contributions on Part VIII, lines 1c and 8a? <i>If "Yes," complete Schedule G, Part II</i>	18 <input type="checkbox"/>	<input checked="" type="checkbox"/>
19 Did the organization report more than \$15,000 of gross income from gaming activities on Part VIII, line 9a? <i>If "Yes," complete Schedule G, Part III</i>	19 <input type="checkbox"/>	<input checked="" type="checkbox"/>
20a Did the organization operate one or more hospital facilities? <i>If "Yes," complete Schedule H</i>	20a <input type="checkbox"/>	<input checked="" type="checkbox"/>
b If "Yes" to line 20a, did the organization attach a copy of its audited financial statements to this return?	20b <input type="checkbox"/>	<input type="checkbox"/>
21 Did the organization report more than \$5,000 of grants or other assistance to any domestic organization or domestic government on Part IX, column (A), line 1? <i>If "Yes," complete Schedule I, Parts I and II</i>	21 <input type="checkbox"/>	<input checked="" type="checkbox"/>

Part IV Checklist of Required Schedules (continued)

	Yes	No
22 Did the organization report more than \$5,000 of grants or other assistance to or for domestic individuals on Part IX, column (A), line 2? If "Yes," complete Schedule I, Parts I and III	22	X
23 Did the organization answer "Yes" to Part VII, Section A, line 3, 4, or 5 about compensation of the organization's current and former officers, directors, trustees, key employees, and highest compensated employees? If "Yes," complete Schedule J	23	X
24a Did the organization have a tax-exempt bond issue with an outstanding principal amount of more than \$100,000 as of the last day of the year, that was issued after December 31, 2002? If "Yes," answer lines 24b through 24d and complete Schedule K. If "No," go to line 25a	24a	X
b Did the organization invest any proceeds of tax-exempt bonds beyond a temporary period exception? . . .	24b	
c Did the organization maintain an escrow account other than a refunding escrow at any time during the year to defease any tax-exempt bonds?	24c	
d Did the organization act as an "on behalf of" issuer for bonds outstanding at any time during the year? . . .	24d	
25a Section 501(c)(3), 501(c)(4), and 501(c)(29) organizations. Did the organization engage in an excess benefit transaction with a disqualified person during the year? If "Yes," complete Schedule L, Part I	25a	X
b Is the organization aware that it engaged in an excess benefit transaction with a disqualified person in a prior year, and that the transaction has not been reported on any of the organization's prior Forms 990 or 990-EZ? If "Yes," complete Schedule L, Part I	25b	X
26 Did the organization report any amount on Part X, line 5, 6, or 22 for receivables from or payables to any current or former officers, directors, trustees, key employees, highest compensated employees, or disqualified persons? If "Yes," complete Schedule L, Part II	26	X
27 Did the organization provide a grant or other assistance to an officer, director, trustee, key employee, substantial contributor or employee thereof, a grant selection committee member, or to a 35% controlled entity or family member of any of these persons? If "Yes," complete Schedule L, Part III	27	X
28 Was the organization a party to a business transaction with one of the following parties (see Schedule L, Part IV instructions for applicable filing thresholds, conditions, and exceptions):		
a A current or former officer, director, trustee, or key employee? If "Yes," complete Schedule L, Part IV . . .	28a	X
b A family member of a current or former officer, director, trustee, or key employee? If "Yes," complete Schedule L, Part IV	28b	X
c An entity of which a current or former officer, director, trustee, or key employee (or a family member thereof) was an officer, director, trustee, or direct or indirect owner? If "Yes," complete Schedule L, Part IV . . .	28c	X
29 Did the organization receive more than \$25,000 in non-cash contributions? If "Yes," complete Schedule M	29	X
30 Did the organization receive contributions of art, historical treasures, or other similar assets, or qualified conservation contributions? If "Yes," complete Schedule M	30	X
31 Did the organization liquidate, terminate, or dissolve and cease operations? If "Yes," complete Schedule N, Part I	31	X
32 Did the organization sell, exchange, dispose of, or transfer more than 25% of its net assets? If "Yes," complete Schedule N, Part II	32	X
33 Did the organization own 100% of an entity disregarded as separate from the organization under Regulations sections 301.7701-2 and 301.7701-3? If "Yes," complete Schedule R, Part I	33	X
34 Was the organization related to any tax-exempt or taxable entity? If "Yes," complete Schedule R, Part II, III, or IV, and Part V, line 1	34	X
35a Did the organization have a controlled entity within the meaning of section 512(b)(13)?	35a	X
b If "Yes" to line 35a, did the organization receive any payment from or engage in any transaction with a controlled entity within the meaning of section 512(b)(13)? If "Yes," complete Schedule R, Part V, line 2 . . .	35b	X
36 Section 501(c)(3) organizations. Did the organization make any transfers to an exempt non-charitable related organization? If "Yes," complete Schedule R, Part V, line 2	36	X
37 Did the organization conduct more than 5% of its activities through an entity that is not a related organization and that is treated as a partnership for federal income tax purposes? If "Yes," complete Schedule R, Part VI	37	X
38 Did the organization complete Schedule O and provide explanations in Schedule O for Part VI, lines 11b and 19? Note. All Form 990 filers are required to complete Schedule O.	38	X

Part V Statements Regarding Other IRS Filings and Tax ComplianceCheck if Schedule O contains a response or note to any line in this Part V ☐

	Yes	No
1a Enter the number reported in Box 3 of Form 1096. Enter -0- if not applicable	1a	0
b Enter the number of Forms W-2G included in line 1a. Enter -0- if not applicable	1b	0
c Did the organization comply with backup withholding rules for reportable payments to vendors and reportable gaming (gambling) winnings to prize winners?	1c	

Part V Statements Regarding Other IRS Filings and Tax Compliance (continued)

		Yes	No
2a	Enter the number of employees reported on Form W-3, Transmittal of Wage and Tax Statements, filed for the calendar year ending with or within the year covered by this return	2a	14
b	If at least one is reported on line 2a, did the organization file all required federal employment tax returns? Note. If the sum of lines 1a and 2a is greater than 250, you may be required to e-file (see instructions)	2b	X
3a	Did the organization have unrelated business gross income of \$1,000 or more during the year?	3a	X
b	If "Yes," has it filed a Form 990-T for this year? If "No" to line 3b, provide an explanation in Schedule O	3b	
4a	At any time during the calendar year, did the organization have an interest in, or a signature or other authority over, a financial account in a foreign country (such as a bank account, securities account, or other financial account)?	4a	X
b	If "Yes," enter the name of the foreign country: See instructions for filing requirements for FinCEN Form 114, Report of Foreign Bank and Financial Accounts (FBAR).		
5a	Was the organization a party to a prohibited tax shelter transaction at any time during the tax year?	5a	X
b	Did any taxable party notify the organization that it was or is a party to a prohibited tax shelter transaction?	5b	X
c	If "Yes" to line 5a or 5b, did the organization file Form 8886-T?	5c	
6a	Does the organization have annual gross receipts that are normally greater than \$100,000, and did the organization solicit any contributions that were not tax deductible as charitable contributions?	6a	X
b	If "Yes," did the organization include with every solicitation an express statement that such contributions or gifts were not tax deductible?	6b	
7	Organizations that may receive deductible contributions under section 170(c).		
a	Did the organization receive a payment in excess of \$75 made partly as a contribution and partly for goods and services provided to the payor?	7a	X
b	If "Yes," did the organization notify the donor of the value of the goods or services provided?	7b	
c	Did the organization sell, exchange, or otherwise dispose of tangible personal property for which it was required to file Form 8282?	7c	X
d	If "Yes," indicate the number of Forms 8282 filed during the year	7d	
e	Did the organization receive any funds, directly or indirectly, to pay premiums on a personal benefit contract?	7e	X
f	Did the organization, during the year, pay premiums, directly or indirectly, on a personal benefit contract?	7f	X
g	If the organization received a contribution of qualified intellectual property, did the organization file Form 8899 as required?	7g	
h	If the organization received a contribution of cars, boats, airplanes, or other vehicles, did the organization file a Form 1098-C?	7h	X
8	Sponsoring organizations maintaining donor advised funds. Did a donor advised fund maintained by the sponsoring organization have excess business holdings at any time during the year?	8	X
9	Sponsoring organizations maintaining donor advised funds.		
a	Did the sponsoring organization make any taxable distributions under section 4966?	9a	X
b	Did the sponsoring organization make a distribution to a donor, donor advisor, or related person?	9b	X
10	Section 501(c)(7) organizations. Enter:		
a	Initiation fees and capital contributions included on Part VIII, line 12	10a	
b	Gross receipts, included on Form 990, Part VIII, line 12, for public use of club facilities	10b	
11	Section 501(c)(12) organizations. Enter:		
a	Gross income from members or shareholders	11a	
b	Gross income from other sources (Do not net amounts due or paid to other sources against amounts due or received from them.)	11b	
12a	Section 4947(a)(1) non-exempt charitable trusts. Is the organization filing Form 990 in lieu of Form 1041?	12a	
b	If "Yes," enter the amount of tax-exempt interest received or accrued during the year	12b	
13	Section 501(c)(29) qualified nonprofit health insurance issuers.		
a	Is the organization licensed to issue qualified health plans in more than one state? Note. See the instructions for additional information the organization must report on Schedule O.	13a	
b	Enter the amount of reserves the organization is required to maintain by the states in which the organization is licensed to issue qualified health plans	13b	
c	Enter the amount of reserves on hand	13c	
14a	Did the organization receive any payments for indoor tanning services during the tax year?	14a	X
b	If "Yes," has it filed a Form 720 to report these payments? If "No," provide an explanation in Schedule O	14b	
15	Is the organization subject to the section 4960 tax on payment(s) of more than \$1,000,000 in remuneration or excess parachute payment(s) during the year? If "Yes," see instructions and file Form 4720, Schedule N.	15	
16	Is the organization an educational institution subject to the section 4968 excise tax on net investment income? If "Yes," complete Form 4720, Schedule O.	16	

Part VI Governance, Management, and Disclosure For each "Yes" response to lines 2 through 7b below, and for a "No" response to line 8a, 8b, or 10b below, describe the circumstances, processes, or changes in Schedule O. See instructions. Check if Schedule O contains a response or note to any line in this Part VI ☒

Section A. Governing Body and Management

		Yes	No
1a Enter the number of voting members of the governing body at the end of the tax year . . .	1a 4		
If there are material differences in voting rights among members of the governing body, or if the governing body delegated broad authority to an executive committee or similar committee, explain in Schedule O.			
b Enter the number of voting members included in line 1a, above, who are independent . . .	1b 4		
2 Did any officer, director, trustee, or key employee have a family relationship or a business relationship with any other officer, director, trustee, or key employee?	2		x
3 Did the organization delegate control over management duties customarily performed by or under the direct supervision of officers, directors, or trustees, or key employees to a management company or other person?	3		x
4 Did the organization make any significant changes to its governing documents since the prior Form 990 was filed?	4		x
5 Did the organization become aware during the year of a significant diversion of the organization's assets?	5		x
6 Did the organization have members or stockholders?	6		x
7a Did the organization have members, stockholders, or other persons who had the power to elect or appoint one or more members of the governing body?	7a		x
b Are any governance decisions of the organization reserved to (or subject to approval by) members, stockholders, or persons other than the governing body?	7b		x
8 Did the organization contemporaneously document the meetings held or written actions undertaken during the year by the following:			
a The governing body?	8a	x	
b Each committee with authority to act on behalf of the governing body?	8b	x	
9 Is there any officer, director, trustee, or key employee listed in Part VII, Section A, who cannot be reached at the organization's mailing address? If "Yes," provide the names and addresses in Schedule O	9		x

Section B. Policies (This Section B requests information about policies not required by the Internal Revenue Code.)

	Yes	No
10a Did the organization have local chapters, branches, or affiliates?	10a	x
b If "Yes," did the organization have written policies and procedures governing the activities of such chapters, affiliates, and branches to ensure their operations are consistent with the organization's exempt purposes?	10b	
11a Has the organization provided a complete copy of this Form 990 to all members of its governing body before filing the form?	11a x	
b Describe in Schedule O the process, if any, used by the organization to review this Form 990.		
12a Did the organization have a written conflict of interest policy? If "No," go to line 13	12a x	
b Were officers, directors, or trustees, and key employees required to disclose annually interests that could give rise to conflicts?	12b x	
c Did the organization regularly and consistently monitor and enforce compliance with the policy? If "Yes," describe in Schedule O how this was done	12c x	
13 Did the organization have a written whistleblower policy?	13 x	
14 Did the organization have a written document retention and destruction policy?	14 x	
15 Did the process for determining compensation of the following persons include a review and approval by independent persons, comparability data, and contemporaneous substantiation of the deliberation and decision?		
a The organization's CEO, Executive Director, or top management official	15a	x
b Other officers or key employees of the organization	15b	x
If "Yes" to line 15a or 15b, describe the process in Schedule O (see instructions).		
16a Did the organization invest in, contribute assets to, or participate in a joint venture or similar arrangement with a taxable entity during the year?	16a	x
b If "Yes," did the organization follow a written policy or procedure requiring the organization to evaluate its participation in joint venture arrangements under applicable federal tax law, and take steps to safeguard the organization's exempt status with respect to such arrangements?	16b	

Section C. Disclosure

17 List the states with which a copy of this Form 990 is required to be filed ► FL

18 Section 6104 requires an organization to make its Forms 1023 (1024 or 1024-A if applicable), 990, and 990-T (Section 501(c)(3)s only) available for public inspection. Indicate how you made these available. Check all that apply.
☐ Own website ☐ Another's website ☒ Upon request ☐ Other (explain in Schedule O)

19 Describe in Schedule O whether (and if so, how) the organization made its governing documents, conflict of interest policy, and financial statements available to the public during the tax year.

20 State the name, address, and telephone number of the person who possesses the organization's books and records ►
 Paul R Reillo Ph.D., 1222 E Road , Loxahatchee, FL 33470 (561) 790-5864

Part VII Compensation of Officers, Directors, Trustees, Key Employees, Highest Compensated Employees, and Independent ContractorsCheck if Schedule O contains a response or note to any line in this Part VII ☐**Section A. Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees****1a** Complete this table for all persons required to be listed. Report compensation for the calendar year ending with or within the organization's tax year.

- List all of the organization's **current** officers, directors, trustees (whether individuals or organizations), regardless of amount of compensation. Enter -0- in columns (D), (E), and (F) if no compensation was paid.
- List all of the organization's **current** key employees, if any. See instructions for definition of "key employee."
- List the organization's five **current** highest compensated employees (other than an officer, director, trustee, or key employee) who received reportable compensation (Box 5 of Form W-2 and/or Box 7 of Form 1099-MISC) of more than \$100,000 from the organization and any related organizations.
- List all of the organization's **former** officers, key employees, and highest compensated employees who received more than \$100,000 of reportable compensation from the organization and any related organizations.
- List all of the organization's **former directors or trustees** that received, in the capacity as a former director or trustee of the organization, more than \$10,000 of reportable compensation from the organization and any related organizations.

List persons in the following order: individual trustees or directors; institutional trustees; officers; key employees; highest compensated employees; and former such persons.

☐ Check this box if neither the organization nor any related organization compensated any current officer, director, or trustee.

(A) Name and Title	(B) Average hours per week (list any hours for related organizations below dotted line)	(C) Position (do not check more than one box, unless person is both an officer and a director/trustee)						(D) Reportable compensation from the organization (W-2/1099-MISC)	(E) Reportable compensation from related organizations (W-2/1099-MISC)	(F) Estimated amount of other compensation from the organization and related organizations
		Individual trustee or director	Institutional trustee	Officer	Key employee	Highest compensated employee	Former			
(1) Paul R Reillo Ph.D. President/Treasurer	60.00	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				0.	0.	0.
(2) George Amato Ph.D. Secretary	10.00	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				0.	0.	0.
(3) Richard D Estes Ph.D. Director	10.00	<input checked="" type="checkbox"/>						0.	0.	0.
(4) Christopher Langen Esq. Director	10.00	<input checked="" type="checkbox"/>						0.	0.	0.
(5)										
(6)										
(7)										
(8)										
(9)										
(10)										
(11)										
(12)										
(13)										
(14)										

Part VII Section A. Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees (continued)

(A) Name and title	(B) Average hours per week (list any hours for related organizations below dotted line)	(C) Position (do not check more than one box, unless person is both an officer and a director/trustee)						(D) Reportable compensation from the organization (W-2/1099-MISC)	(E) Reportable compensation from related organizations (W-2/1099-MISC)	(F) Estimated amount of other compensation from the organization and related organizations
		Individual trustee or director	Institutional trustee	Officer	Key employee	Highest compensated employee	Former			
(15)										
(16)										
(17)										
(18)										
(19)										
(20)										
(21)										
(22)										
(23)										
(24)										
(25)										
1b Sub-total								0.	0.	0.
c Total from continuation sheets to Part VII, Section A										
d Total (add lines 1b and 1c)								0.	0.	0.

2 Total number of individuals (including but not limited to those listed above) who received more than \$100,000 of reportable compensation from the organization ►

- | | Yes | No |
|--|-----|----------|
| 3 Did the organization list any former officer, director, or trustee, key employee, or highest compensated employee on line 1a? <i>If "Yes," complete Schedule J for such individual</i> | | x |
| 4 For any individual listed on line 1a, is the sum of reportable compensation and other compensation from the organization and related organizations greater than \$150,000? <i>If "Yes," complete Schedule J for such individual</i> | | x |
| 5 Did any person listed on line 1a receive or accrue compensation from any unrelated organization or individual for services rendered to the organization? <i>If "Yes," complete Schedule J for such person</i> | | x |

Section B. Independent Contractors

- 1** Complete this table for your five highest compensated independent contractors that received more than \$100,000 of compensation from the organization. Report compensation for the calendar year ending with or within the organization's tax year.

(A) Name and business address	(B) Description of services	(C) Compensation

- 2** Total number of independent contractors (including but not limited to those listed above) who received more than \$100,000 of compensation from the organization ►

Part VIII Statement of RevenueCheck if Schedule O contains a response or note to any line in this Part VIII ☒

				(A) Total revenue	(B) Related or exempt function revenue	(C) Unrelated business revenue	(D) Revenue excluded from tax under sections 512-514	
Contributions, Gifts, Grants and Other Similar Amounts	1a	Federated campaigns	1a					
	b	Membership dues	1b					
	c	Fundraising events	1c					
	d	Related organizations	1d					
	e	Government grants (contributions)	1e					
	f	All other contributions, gifts, grants, and similar amounts not included above	1f	1,760,137.				
	g	Noncash contributions included in lines 1a-1f: \$		350,000.				
	h	Total. Add lines 1a-1f		1,760,137.				
Program Service Revenue				Business Code				
	2a							
	b							
	c							
	d							
	e							
	f	All other program service revenue .						
	g	Total. Add lines 2a-2f						
Other Revenue	3	Investment income (including dividends, interest, and other similar amounts)			5,365.	0.	0.	5,365.
	4	Income from investment of tax-exempt bond proceeds						
	5	Royalties						
		(i) Real	(ii) Personal					
	6a	Gross rents						
	b	Less: rental expenses						
	c	Rental income or (loss)						
	d	Net rental income or (loss)						
	7a	(i) Securities	(ii) Other					
		Gross amount from sales of assets other than inventory						
	b	Less: cost or other basis and sales expenses						
	c	Gain or (loss)						
	d	Net gain or (loss)						
	8a	Gross income from fundraising events (not including \$ _____ of contributions reported on line 1c). See Part IV, line 18		a				
	b	Less: direct expenses		b				
	c	Net income or (loss) from fundraising events						
	9a	Gross income from gaming activities. See Part IV, line 19		a				
	b	Less: direct expenses		b				
	c	Net income or (loss) from gaming activities						
	10a	Gross sales of inventory, less returns and allowances		a				
	b	Less: cost of goods sold		b				
	c	Net income or (loss) from sales of inventory						
Miscellaneous Revenue			Business Code					
11a	Miscellaneous		900099	7,032.	7,032.	0.	0.	
b								
c								
d	All other revenue							
e	Total. Add lines 11a-11d			7,032.				
12	Total revenue. See instructions			1,772,534.	7,032.	0.	5,365.	

Part IX Statement of Functional Expenses

Section 501(c)(3) and 501(c)(4) organizations must complete all columns. All other organizations must complete column (A).

Check if Schedule O contains a response or note to any line in this Part IX ☒**Do not include amounts reported on lines 6b, 7b, 8b, 9b, and 10b of Part VIII.**

	(A) Total expenses	(B) Program service expenses	(C) Management and general expenses	(D) Fundraising expenses
1 Grants and other assistance to domestic organizations and domestic governments. See Part IV, line 21				
2 Grants and other assistance to domestic individuals. See Part IV, line 22				
3 Grants and other assistance to foreign organizations, foreign governments, and foreign individuals. See Part IV, lines 15 and 16	116,283.	116,283.		
4 Benefits paid to or for members				
5 Compensation of current officers, directors, trustees, and key employees				
6 Compensation not included above, to disqualified persons (as defined under section 4958(f)(1)) and persons described in section 4958(c)(3)(B)				
7 Other salaries and wages	235,042.	235,042.	0.	0.
8 Pension plan accruals and contributions (include section 401(k) and 403(b) employer contributions)				
9 Other employee benefits				
10 Payroll taxes	18,229.	18,229.	0.	0.
11 Fees for services (non-employees):				
a Management				
b Legal				
c Accounting				
d Lobbying	2,200.	0.	2,200.	0.
e Professional fundraising services. See Part IV, line 17				
f Investment management fees				
g Other. (If line 11g amount exceeds 10% of line 25, column (A) amount, list line 11g expenses on Schedule O.)				
12 Advertising and promotion				
13 Office expenses	2,231.	2,231.	0.	0.
14 Information technology				
15 Royalties				
16 Occupancy				
17 Travel				
18 Payments of travel or entertainment expenses for any federal, state, or local public officials				
19 Conferences, conventions, and meetings				
20 Interest				
21 Payments to affiliates				
22 Depreciation, depletion, and amortization	9,415.	9,415.	0.	0.
23 Insurance	7,131.	7,131.	0.	0.
24 Other expenses. Itemize expenses not covered above (List miscellaneous expenses in line 24e. If line 24e amount exceeds 10% of line 25, column (A) amount, list line 24e expenses on Schedule O.)				
a Feed and Supplies	102,699.	102,699.	0.	0.
b Utilities and Fuel	7,513.	7,513.	0.	0.
c Development and Education	4,729.	4,729.	0.	0.
d Communications	2,161.	2,161.	0.	0.
e All other expenses	189,427.	189,427.	0.	0.
25 Total functional expenses. Add lines 1 through 24e	697,060.	694,860.	2,200.	0.
26 Joint costs. Complete this line only if the organization reported in column (B) joint costs from a combined educational campaign and fundraising solicitation. Check here <input type="checkbox"/> if following SOP 98-2 (ASC 958-720)				

Part X Balance SheetCheck if Schedule O contains a response or note to any line in this Part X ☐

		(A) Beginning of year		(B) End of year
Assets	1 Cash—non-interest-bearing	474,559.	1	544,698.
	2 Savings and temporary cash investments	866,085.	2	871,449.
	3 Pledges and grants receivable, net		3	
	4 Accounts receivable, net		4	
	5 Loans and other receivables from current and former officers, directors, trustees, key employees, and highest compensated employees. Complete Part II of Schedule L		5	
	6 Loans and other receivables from other disqualified persons (as defined under section 4958(f)(1)), persons described in section 4958(c)(3)(B), and contributing employers and sponsoring organizations of section 501(c)(9) voluntary employees' beneficiary organizations (see instructions). Complete Part II of Schedule L		6	
	7 Notes and loans receivable, net		7	
	8 Inventories for sale or use		8	
	9 Prepaid expenses and deferred charges		9	
	10a Land, buildings, and equipment: cost or other basis. Complete Part VI of Schedule D	10a 1,999,852.		
	b Less: accumulated depreciation	10b 91,357.	914,694.	10c 1,908,495.
	11 Investments—publicly traded securities	51,084.	11	46,165.
	12 Investments—other securities. See Part IV, line 11		12	
	13 Investments—program-related. See Part IV, line 11		13	
	14 Intangible assets		14	
	15 Other assets. See Part IV, line 11	500.	15	500.
16 Total assets. Add lines 1 through 15 (must equal line 34)	2,306,922.	16	3,371,307.	
Liabilities	17 Accounts payable and accrued expenses		17	
	18 Grants payable		18	
	19 Deferred revenue		19	
	20 Tax-exempt bond liabilities		20	
	21 Escrow or custodial account liability. Complete Part IV of Schedule D		21	
	22 Loans and other payables to current and former officers, directors, trustees, key employees, highest compensated employees, and disqualified persons. Complete Part II of Schedule L		22	
	23 Secured mortgages and notes payable to unrelated third parties		23	
	24 Unsecured notes and loans payable to unrelated third parties		24	
	25 Other liabilities (including federal income tax, payables to related third parties, and other liabilities not included on lines 17–24). Complete Part X of Schedule D	5,171.	25	0.
	26 Total liabilities. Add lines 17 through 25	5,171.	26	0.
Net Assets or Fund Balances	Organizations that follow SFAS 117 (ASC 958), check here <input checked="" type="checkbox"/> and complete lines 27 through 29, and lines 33 and 34.			
	27 Unrestricted net assets	2,301,751.	27	3,371,307.
	28 Temporarily restricted net assets		28	
	29 Permanently restricted net assets		29	
	Organizations that do not follow SFAS 117 (ASC 958), check here <input type="checkbox"/> and complete lines 30 through 34.			
	30 Capital stock or trust principal, or current funds		30	
	31 Paid-in or capital surplus, or land, building, or equipment fund		31	
	32 Retained earnings, endowment, accumulated income, or other funds		32	
	33 Total net assets or fund balances	2,301,751.	33	3,371,307.
	34 Total liabilities and net assets/fund balances	2,306,922.	34	3,371,307.

Part XI Reconciliation of Net AssetsCheck if Schedule O contains a response or note to any line in this Part XI ☐

1	Total revenue (must equal Part VIII, column (A), line 12)	1	1,772,534.
2	Total expenses (must equal Part IX, column (A), line 25)	2	697,060.
3	Revenue less expenses. Subtract line 2 from line 1	3	1,075,474.
4	Net assets or fund balances at beginning of year (must equal Part X, line 33, column (A))	4	2,301,751.
5	Net unrealized gains (losses) on investments	5	-4,918.
6	Donated services and use of facilities	6	
7	Investment expenses	7	
8	Prior period adjustments	8	-1,000.
9	Other changes in net assets or fund balances (explain in Schedule O)	9	
10	Net assets or fund balances at end of year. Combine lines 3 through 9 (must equal Part X, line 33, column (B))	10	3,371,307.

Part XII Financial Statements and ReportingCheck if Schedule O contains a response or note to any line in this Part XII ☐

	Yes	No
1 Accounting method used to prepare the Form 990: <input checked="" type="checkbox"/> Cash <input type="checkbox"/> Accrual <input type="checkbox"/> Other _____ If the organization changed its method of accounting from a prior year or checked "Other," explain in Schedule O.		
2a Were the organization's financial statements compiled or reviewed by an independent accountant? . . . If "Yes," check a box below to indicate whether the financial statements for the year were compiled or reviewed on a separate basis, consolidated basis, or both: <input type="checkbox"/> Separate basis <input type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis		x
b Were the organization's financial statements audited by an independent accountant? . . . If "Yes," check a box below to indicate whether the financial statements for the year were audited on a separate basis, consolidated basis, or both: <input type="checkbox"/> Separate basis <input type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis		x
c If "Yes" to line 2a or 2b, does the organization have a committee that assumes responsibility for oversight of the audit, review, or compilation of its financial statements and selection of an independent accountant? If the organization changed either its oversight process or selection process during the tax year, explain in Schedule O.		
3a As a result of a federal award, was the organization required to undergo an audit or audits as set forth in the Single Audit Act and OMB Circular A-133? . . .		x
b If "Yes," did the organization undergo the required audit or audits? If the organization did not undergo the required audit or audits, explain why in Schedule O and describe any steps taken to undergo such audits.		

Form **990** (2018)

SCHEDULE A
(Form 990 or 990-EZ)

Department of the Treasury
Internal Revenue Service

Public Charity Status and Public Support

Complete if the organization is a section 501(c)(3) organization or a section 4947(a)(1) nonexempt charitable trust.

► Attach to Form 990 or Form 990-EZ.

► Go to www.irs.gov/Form990 for instructions and the latest information.

OMB No. 1545-0047

2018

**Open to Public
Inspection**

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Part I Reason for Public Charity Status (All organizations must complete this part.) See instructions.

The organization is not a private foundation because it is: (For lines 1 through 12, check only one box.)

- 1 ☐ A church, convention of churches, or association of churches described in **section 170(b)(1)(A)(i)**.
- 2 ☐ A school described in **section 170(b)(1)(A)(ii)**. (Attach Schedule E (Form 990 or 990-EZ).)
- 3 ☐ A hospital or a cooperative hospital service organization described in **section 170(b)(1)(A)(iii)**.
- 4 ☐ A medical research organization operated in conjunction with a hospital described in **section 170(b)(1)(A)(iii)**. Enter the hospital's name, city, and state: _____
- 5 ☐ An organization operated for the benefit of a college or university owned or operated by a governmental unit described in **section 170(b)(1)(A)(iv)**. (Complete Part II.)
- 6 ☐ A federal, state, or local government or governmental unit described in **section 170(b)(1)(A)(v)**.
- 7 ☒ An organization that normally receives a substantial part of its support from a governmental unit or from the general public described in **section 170(b)(1)(A)(vi)**. (Complete Part II.)
- 8 ☐ A community trust described in **section 170(b)(1)(A)(vii)**. (Complete Part II.)
- 9 ☐ An agricultural research organization described in **section 170(b)(1)(A)(ix)** operated in conjunction with a land-grant college or university or a non-land-grant college of agriculture (see instructions). Enter the name, city, and state of the college or university: _____
- 10 ☐ An organization that normally receives: (1) more than 33 $\frac{1}{3}$ % of its support from contributions, membership fees, and gross receipts from activities related to its exempt functions—subject to certain exceptions, and (2) no more than 33 $\frac{1}{3}$ % of its support from gross investment income and unrelated business taxable income (less section 511 tax) from businesses acquired by the organization after June 30, 1975. See **section 509(a)(2)**. (Complete Part III.)
- 11 ☐ An organization organized and operated exclusively to test for public safety. See **section 509(a)(4)**.
- 12 ☐ An organization organized and operated exclusively for the benefit of, to perform the functions of, or to carry out the purposes of one or more publicly supported organizations described in **section 509(a)(1)** or **section 509(a)(2)**. See **section 509(a)(3)**. Check the box in lines 12a through 12d that describes the type of supporting organization and complete lines 12e, 12f, and 12g.
- a ☐ **Type I.** A supporting organization operated, supervised, or controlled by its supported organization(s), typically by giving the supported organization(s) the power to regularly appoint or elect a majority of the directors or trustees of the supporting organization. **You must complete Part IV, Sections A and B.**
- b ☐ **Type II.** A supporting organization supervised or controlled in connection with its supported organization(s), by having control or management of the supporting organization vested in the same persons that control or manage the supported organization(s). **You must complete Part IV, Sections A and C.**
- c ☐ **Type III functionally integrated.** A supporting organization operated in connection with, and functionally integrated with, its supported organization(s) (see instructions). **You must complete Part IV, Sections A, D, and E.**
- d ☐ **Type III non-functionally integrated.** A supporting organization operated in connection with its supported organization(s) that is not functionally integrated. The organization generally must satisfy a distribution requirement and an attentiveness requirement (see instructions). **You must complete Part IV, Sections A and D, and Part V.**
- e ☐ Check this box if the organization received a written determination from the IRS that it is a Type I, Type II, Type III functionally integrated, or Type III non-functionally integrated supporting organization.
- f Enter the number of supported organizations
- g Provide the following information about the supported organization(s).

(i) Name of supported organization	(ii) EIN	(iii) Type of organization (described on lines 1–10 above (see instructions))	(iv) Is the organization listed in your governing document?		(v) Amount of monetary support (see instructions)	(vi) Amount of other support (see instructions)
			Yes	No		
(A)						
(B)						
(C)						
(D)						
(E)						
Total						

Part II Support Schedule for Organizations Described in Sections 170(b)(1)(A)(iv) and 170(b)(1)(A)(vi)

(Complete only if you checked the box on line 5, 7, or 8 of Part I or if the organization failed to qualify under Part III. If the organization fails to qualify under the tests listed below, please complete Part III.)

Section A. Public Support

Calendar year (or fiscal year beginning in) ►	(a) 2014	(b) 2015	(c) 2016	(d) 2017	(e) 2018	(f) Total
1 Gifts, grants, contributions, and membership fees received. (Do not include any "unusual grants.")	346,661.	662,781.	903,599.	774,430.	1,767,169.	4,454,640.
2 Tax revenues levied for the organization's benefit and either paid to or expended on its behalf						
3 The value of services or facilities furnished by a governmental unit to the organization without charge						
4 Total. Add lines 1 through 3	346,661.	662,781.	903,599.	774,430.	1,767,169.	4,454,640.
5 The portion of total contributions by each person (other than a governmental unit or publicly supported organization) included on line 1 that exceeds 2% of the amount shown on line 11, column (f)						77,237.
6 Public support. Subtract line 5 from line 4						4,377,403.

Section B. Total Support

Calendar year (or fiscal year beginning in) ►	(a) 2014	(b) 2015	(c) 2016	(d) 2017	(e) 2018	(f) Total
7 Amounts from line 4	346,661.	662,781.	903,599.	774,430.	1,767,169.	4,454,640.
8 Gross income from interest, dividends, payments received on securities loans, rents, royalties, and income from similar sources	793.	695.	4,561.	4,993.	5,365.	16,407.
9 Net income from unrelated business activities, whether or not the business is regularly carried on						
10 Other income. Do not include gain or loss from the sale of capital assets (Explain in Part VI.)						
11 Total support. Add lines 7 through 10						4,471,047.
12 Gross receipts from related activities, etc. (see instructions)					12	
13 First five years. If the Form 990 is for the organization's first, second, third, fourth, or fifth tax year as a section 501(c)(3) organization, check this box and stop here						<input type="checkbox"/>

Section C. Computation of Public Support Percentage

14 Public support percentage for 2018 (line 6, column (f) divided by line 11, column (f))	14	97.91 %
15 Public support percentage from 2017 Schedule A, Part II, line 14	15	93.29 %
16a 33⅓% support test—2018. If the organization did not check the box on line 13, and line 14 is 33⅓% or more, check this box and stop here. The organization qualifies as a publicly supported organization	<input checked="" type="checkbox"/>	
b 33⅓% support test—2017. If the organization did not check a box on line 13 or 16a, and line 15 is 33⅓% or more, check this box and stop here. The organization qualifies as a publicly supported organization	<input type="checkbox"/>	
17a 10%-facts-and-circumstances test—2018. If the organization did not check a box on line 13, 16a, or 16b, and line 14 is 10% or more, and if the organization meets the "facts-and-circumstances" test, check this box and stop here. Explain in Part VI how the organization meets the "facts-and-circumstances" test. The organization qualifies as a publicly supported organization	<input type="checkbox"/>	
b 10%-facts-and-circumstances test—2017. If the organization did not check a box on line 13, 16a, 16b, or 17a, and line 15 is 10% or more, and if the organization meets the "facts-and-circumstances" test, check this box and stop here. Explain in Part VI how the organization meets the "facts-and-circumstances" test. The organization qualifies as a publicly supported organization	<input type="checkbox"/>	
18 Private foundation. If the organization did not check a box on line 13, 16a, 16b, 17a, or 17b, check this box and see instructions	<input type="checkbox"/>	

Part III Support Schedule for Organizations Described in Section 509(a)(2)

(Complete only if you checked the box on line 10 of Part I or if the organization failed to qualify under Part II.
If the organization fails to qualify under the tests listed below, please complete Part II.)

Section A. Public Support

Calendar year (or fiscal year beginning in) ►	(a) 2014	(b) 2015	(c) 2016	(d) 2017	(e) 2018	(f) Total
1 Gifts, grants, contributions, and membership fees received. (Do not include any "unusual grants.")						
2 Gross receipts from admissions, merchandise sold or services performed, or facilities furnished in any activity that is related to the organization's tax-exempt purpose						
3 Gross receipts from activities that are not an unrelated trade or business under section 513						
4 Tax revenues levied for the organization's benefit and either paid to or expended on its behalf						
5 The value of services or facilities furnished by a governmental unit to the organization without charge						
6 Total. Add lines 1 through 5						
7a Amounts included on lines 1, 2, and 3 received from disqualified persons .						
b Amounts included on lines 2 and 3 received from other than disqualified persons that exceed the greater of \$5,000 or 1% of the amount on line 13 for the year						
c Add lines 7a and 7b						
8 Public support. (Subtract line 7c from line 6.)						

Section B. Total Support

Calendar year (or fiscal year beginning in) ►	(a) 2014	(b) 2015	(c) 2016	(d) 2017	(e) 2018	(f) Total
9 Amounts from line 6						
10a Gross income from interest, dividends, payments received on securities loans, rents, royalties, and income from similar sources .						
b Unrelated business taxable income (less section 511 taxes) from businesses acquired after June 30, 1975						
c Add lines 10a and 10b						
11 Net income from unrelated business activities not included in line 10b, whether or not the business is regularly carried on						
12 Other income. Do not include gain or loss from the sale of capital assets (Explain in Part VI.)						
13 Total support. (Add lines 9, 10c, 11, and 12.)						
14 First five years. If the Form 990 is for the organization's first, second, third, fourth, or fifth tax year as a section 501(c)(3) organization, check this box and stop here <input type="checkbox"/>						

Section C. Computation of Public Support Percentage

15 Public support percentage for 2018 (line 8, column (f), divided by line 13, column (f))	15	%
16 Public support percentage from 2017 Schedule A, Part III, line 15	16	%

Section D. Computation of Investment Income Percentage

17 Investment income percentage for 2018 (line 10c, column (f), divided by line 13, column (f))	17	%
18 Investment income percentage from 2017 Schedule A, Part III, line 17	18	%
19a 33 1/3% support tests—2018. If the organization did not check the box on line 14, and line 15 is more than 33 1/3%, and line 17 is not more than 33 1/3%, check this box and stop here . The organization qualifies as a publicly supported organization <input type="checkbox"/>		
b 33 1/3% support tests—2017. If the organization did not check a box on line 14 or line 19a, and line 16 is more than 33 1/3%, and line 18 is not more than 33 1/3%, check this box and stop here . The organization qualifies as a publicly supported organization <input type="checkbox"/>		
20 Private foundation. If the organization did not check a box on line 14, 19a, or 19b, check this box and see instructions <input type="checkbox"/>		

Part IV Supporting Organizations

(Complete only if you checked a box in line 12 on Part I. If you checked 12a of Part I, complete Sections A and B. If you checked 12b of Part I, complete Sections A and C. If you checked 12c of Part I, complete Sections A, D, and E. If you checked 12d of Part I, complete Sections A and D, and complete Part V.)

Section A. All Supporting Organizations

	Yes	No
1 Are all of the organization's supported organizations listed by name in the organization's governing documents? <i>If "No," describe in Part VI how the supported organizations are designated. If designated by class or purpose, describe the designation. If historic and continuing relationship, explain.</i>		
2 Did the organization have any supported organization that does not have an IRS determination of status under section 509(a)(1) or (2)? <i>If "Yes," explain in Part VI how the organization determined that the supported organization was described in section 509(a)(1) or (2).</i>		
3a Did the organization have a supported organization described in section 501(c)(4), (5), or (6)? <i>If "Yes," answer (b) and (c) below.</i>		
b Did the organization confirm that each supported organization qualified under section 501(c)(4), (5), or (6) and satisfied the public support tests under section 509(a)(2)? <i>If "Yes," describe in Part VI when and how the organization made the determination.</i>		
c Did the organization ensure that all support to such organizations was used exclusively for section 170(c)(2)(B) purposes? <i>If "Yes," explain in Part VI what controls the organization put in place to ensure such use.</i>		
4a Was any supported organization not organized in the United States ("foreign supported organization")? <i>If "Yes," and if you checked 12a or 12b in Part I, answer (b) and (c) below.</i>		
b Did the organization have ultimate control and discretion in deciding whether to make grants to the foreign supported organization? <i>If "Yes," describe in Part VI how the organization had such control and discretion despite being controlled or supervised by or in connection with its supported organizations.</i>		
c Did the organization support any foreign supported organization that does not have an IRS determination under sections 501(c)(3) and 509(a)(1) or (2)? <i>If "Yes," explain in Part VI what controls the organization used to ensure that all support to the foreign supported organization was used exclusively for section 170(c)(2)(B) purposes.</i>		
5a Did the organization add, substitute, or remove any supported organizations during the tax year? <i>If "Yes," answer (b) and (c) below (if applicable). Also, provide detail in Part VI, including (i) the names and EIN numbers of the supported organizations added, substituted, or removed; (ii) the reasons for each such action; (iii) the authority under the organization's organizing document authorizing such action; and (iv) how the action was accomplished (such as by amendment to the organizing document).</i>		
b Type I or Type II only. Was any added or substituted supported organization part of a class already designated in the organization's organizing document?		
c Substitutions only. Was the substitution the result of an event beyond the organization's control?		
6 Did the organization provide support (whether in the form of grants or the provision of services or facilities) to anyone other than (i) its supported organizations, (ii) individuals that are part of the charitable class benefited by one or more of its supported organizations, or (iii) other supporting organizations that also support or benefit one or more of the filing organization's supported organizations? <i>If "Yes," provide detail in Part VI.</i>		
7 Did the organization provide a grant, loan, compensation, or other similar payment to a substantial contributor (as defined in section 4958(c)(3)(C)), a family member of a substantial contributor, or a 35% controlled entity with regard to a substantial contributor? <i>If "Yes," complete Part I of Schedule L (Form 990 or 990-EZ).</i>		
8 Did the organization make a loan to a disqualified person (as defined in section 4958) not described in line 7? <i>If "Yes," complete Part I of Schedule L (Form 990 or 990-EZ).</i>		
9a Was the organization controlled directly or indirectly at any time during the tax year by one or more disqualified persons as defined in section 4946 (other than foundation managers and organizations described in section 509(a)(1) or (2))? <i>If "Yes," provide detail in Part VI.</i>		
b Did one or more disqualified persons (as defined in line 9a) hold a controlling interest in any entity in which the supporting organization had an interest? <i>If "Yes," provide detail in Part VI.</i>		
c Did a disqualified person (as defined in line 9a) have an ownership interest in, or derive any personal benefit from, assets in which the supporting organization also had an interest? <i>If "Yes," provide detail in Part VI.</i>		
10a Was the organization subject to the excess business holdings rules of section 4943 because of section 4943(f) (regarding certain Type II supporting organizations, and all Type III non-functionally integrated supporting organizations)? <i>If "Yes," answer 10b below.</i>		
b Did the organization have any excess business holdings in the tax year? <i>(Use Schedule C, Form 4720, to determine whether the organization had excess business holdings.)</i>		

Part IV Supporting Organizations (continued)

	Yes	No
11 Has the organization accepted a gift or contribution from any of the following persons?		
a A person who directly or indirectly controls, either alone or together with persons described in (b) and (c) below, the governing body of a supported organization?		
b A family member of a person described in (a) above?		
c A 35% controlled entity of a person described in (a) or (b) above? If "Yes" to a, b, or c, provide detail in Part VI .		

Section B. Type I Supporting Organizations

	Yes	No
1 Did the directors, trustees, or membership of one or more supported organizations have the power to regularly appoint or elect at least a majority of the organization's directors or trustees at all times during the tax year? If "No," describe in Part VI how the supported organization(s) effectively operated, supervised, or controlled the organization's activities. If the organization had more than one supported organization, describe how the powers to appoint and/or remove directors or trustees were allocated among the supported organizations and what conditions or restrictions, if any, applied to such powers during the tax year.		
2 Did the organization operate for the benefit of any supported organization other than the supported organization(s) that operated, supervised, or controlled the supporting organization? If "Yes," explain in Part VI how providing such benefit carried out the purposes of the supported organization(s) that operated, supervised, or controlled the supporting organization.		

Section C. Type II Supporting Organizations

	Yes	No
1 Were a majority of the organization's directors or trustees during the tax year also a majority of the directors or trustees of each of the organization's supported organization(s)? If "No," describe in Part VI how control or management of the supporting organization was vested in the same persons that controlled or managed the supported organization(s).		

Section D. All Type III Supporting Organizations

	Yes	No
1 Did the organization provide to each of its supported organizations, by the last day of the fifth month of the organization's tax year, (i) a written notice describing the type and amount of support provided during the prior tax year, (ii) a copy of the Form 990 that was most recently filed as of the date of notification, and (iii) copies of the organization's governing documents in effect on the date of notification, to the extent not previously provided?		
2 Were any of the organization's officers, directors, or trustees either (i) appointed or elected by the supported organization(s) or (ii) serving on the governing body of a supported organization? If "No," explain in Part VI how the organization maintained a close and continuous working relationship with the supported organization(s).		
3 By reason of the relationship described in (2), did the organization's supported organizations have a significant voice in the organization's investment policies and in directing the use of the organization's income or assets at all times during the tax year? If "Yes," describe in Part VI the role the organization's supported organizations played in this regard.		

Section E. Type III Functionally Integrated Supporting Organizations

1 Check the box next to the method that the organization used to satisfy the Integral Part Test during the year (see instructions).			
a <input type="checkbox"/> The organization satisfied the Activities Test. Complete line 2 below.			
b <input type="checkbox"/> The organization is the parent of each of its supported organizations. Complete line 3 below.			
c <input type="checkbox"/> The organization supported a governmental entity. Describe in Part VI how you supported a government entity (see instructions).			
2 Activities Test. Answer (a) and (b) below.			
a Did substantially all of the organization's activities during the tax year directly further the exempt purposes of the supported organization(s) to which the organization was responsive? If "Yes," then in Part VI identify those supported organizations and explain how these activities directly furthered their exempt purposes, how the organization was responsive to those supported organizations, and how the organization determined that these activities constituted substantially all of its activities.			
b Did the activities described in (a) constitute activities that, but for the organization's involvement, one or more of the organization's supported organization(s) would have been engaged in? If "Yes," explain in Part VI the reasons for the organization's position that its supported organization(s) would have engaged in these activities but for the organization's involvement.			
3 Parent of Supported Organizations. Answer (a) and (b) below.			
a Did the organization have the power to regularly appoint or elect a majority of the officers, directors, or trustees of each of the supported organizations? Provide details in Part VI .			
b Did the organization exercise a substantial degree of direction over the policies, programs, and activities of each of its supported organizations? If "Yes," describe in Part VI the role played by the organization in this regard.			

Part V Type III Non-Functionally Integrated 509(a)(3) Supporting Organizations

- 1** ☐ Check here if the organization satisfied the Integral Part Test as a qualifying trust on Nov. 20, 1970 (explain in Part VI). **See instructions.** All other Type III non-functionally integrated supporting organizations must complete Sections A through E.

Section A—Adjusted Net Income		(A) Prior Year	(B) Current Year (optional)
1 Net short-term capital gain	1		
2 Recoveries of prior-year distributions	2		
3 Other gross income (see instructions)	3		
4 Add lines 1 through 3.	4		
5 Depreciation and depletion	5		
6 Portion of operating expenses paid or incurred for production or collection of gross income or for management, conservation, or maintenance of property held for production of income (see instructions)	6		
7 Other expenses (see instructions)	7		
8 Adjusted Net Income (subtract lines 5, 6, and 7 from line 4)	8		
Section B—Minimum Asset Amount		(A) Prior Year	(B) Current Year (optional)
1 Aggregate fair market value of all non-exempt-use assets (see instructions for short tax year or assets held for part of year):			
a Average monthly value of securities	1a		
b Average monthly cash balances	1b		
c Fair market value of other non-exempt-use assets	1c		
d Total (add lines 1a, 1b, and 1c)	1d		
e Discount claimed for blockage or other factors (explain in detail in Part VI):			
2 Acquisition indebtedness applicable to non-exempt-use assets	2		
3 Subtract line 2 from line 1d.	3		
4 Cash deemed held for exempt use. Enter 1-1/2% of line 3 (for greater amount, see instructions).	4		
5 Net value of non-exempt-use assets (subtract line 4 from line 3)	5		
6 Multiply line 5 by .035.	6		
7 Recoveries of prior-year distributions	7		
8 Minimum Asset Amount (add line 7 to line 6)	8		
Section C—Distributable Amount			Current Year
1 Adjusted net income for prior year (from Section A, line 8, Column A)	1		
2 Enter 85% of line 1.	2		
3 Minimum asset amount for prior year (from Section B, line 8, Column A)	3		
4 Enter greater of line 2 or line 3.	4		
5 Income tax imposed in prior year	5		
6 Distributable Amount. Subtract line 5 from line 4, unless subject to emergency temporary reduction (see instructions).	6		
7 <input type="checkbox"/> Check here if the current year is the organization's first as a non-functionally integrated Type III supporting organization (see instructions).			

Part V Type III Non-Functionally Integrated 509(a)(3) Supporting Organizations (continued)

Section D—Distributions		Current Year
1	Amounts paid to supported organizations to accomplish exempt purposes	
2	Amounts paid to perform activity that directly furthers exempt purposes of supported organizations, in excess of income from activity	
3	Administrative expenses paid to accomplish exempt purposes of supported organizations	
4	Amounts paid to acquire exempt-use assets	
5	Qualified set-aside amounts (prior IRS approval required)	
6	Other distributions (describe in Part VI). See instructions.	
7	Total annual distributions. Add lines 1 through 6.	
8	Distributions to attentive supported organizations to which the organization is responsive (provide details in Part VI). See instructions.	
9	Distributable amount for 2018 from Section C, line 6	
10	Line 8 amount divided by line 9 amount	

Section E—Distribution Allocations (see instructions)		(i) Excess Distributions	(ii) Underdistributions Pre-2018	(iii) Distributable Amount for 2018
1	Distributable amount for 2018 from Section C, line 6			
2	Underdistributions, if any, for years prior to 2018 (reasonable cause required—explain in Part VI). See instructions.			
3	Excess distributions carryover, if any, to 2018			
a	From 2013			
b	From 2014			
c	From 2015			
d	From 2016			
e	From 2017			
f	Total of lines 3a through e			
g	Applied to underdistributions of prior years			
h	Applied to 2018 distributable amount			
i	Carryover from 2013 not applied (see instructions)			
j	Remainder. Subtract lines 3g, 3h, and 3i from 3f.			
4	Distributions for 2018 from Section D, line 7: \$			
a	Applied to underdistributions of prior years			
b	Applied to 2018 distributable amount			
c	Remainder. Subtract lines 4a and 4b from 4.			
5	Remaining underdistributions for years prior to 2018, if any. Subtract lines 3g and 4a from line 2. For result greater than zero, explain in Part VI . See instructions.			
6	Remaining underdistributions for 2018. Subtract lines 3h and 4b from line 1. For result greater than zero, explain in Part VI . See instructions.			
7	Excess distributions carryover to 2019. Add lines 3j and 4c.			
8	Breakdown of line 7:			
a	Excess from 2014 . . .			
b	Excess from 2015 . . .			
c	Excess from 2016 . . .			
d	Excess from 2017 . . .			
e	Excess from 2018 . . .			

Part VI **Supplemental Information.** Provide the explanations required by Part II, line 10; Part II, line 17a or 17b; Part III, line 12; Part IV, Section A, lines 1, 2, 3b, 3c, 4b, 4c, 5a, 6, 9a, 9b, 9c, 11a, 11b, and 11c; Part IV, Section B, lines 1 and 2; Part IV, Section C, line 1; Part IV, Section D, lines 2 and 3; Part IV, Section E, lines 1c, 2a, 2b, 3a, and 3b; Part V, line 1; Part V, Section B, line 1e; Part V, Section D, lines 5, 6, and 8; and Part V, Section E, lines 2, 5, and 6. Also complete this part for any additional information. (See instructions.)

Other Addl Info: The Organization received an unusual grant during 2014. Brad

Kelly/ Rum Creek Ranch LLC gave \$100,000 as a one-time, 100% restricted grant

to support field conservation efforts by the Bongo surveillance Program operated

in Kenya by the Rhino Ark Charitable Trust. No funds retained by RSCF for overhead,

indirect expenses, grant administration or operations.

Schedule B(Form 990, 990-EZ,
or 990-PF)Department of the Treasury
Internal Revenue Service**Schedule of Contributors**▶ **Attach to Form 990, Form 990-EZ, or Form 990-PF.**
▶ **Go to www.irs.gov/Form990 for the latest information.**

OMB No. 1545-0047

2018

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456**Organization type** (check one):**Filers of:****Section:**

Form 990 or 990-EZ

☒ 501(c)(3) (enter number) organization☐ 4947(a)(1) nonexempt charitable trust **not** treated as a private foundation☐ 527 political organization

Form 990-PF

☐ 501(c)(3) exempt private foundation☐ 4947(a)(1) nonexempt charitable trust treated as a private foundation☐ 501(c)(3) taxable private foundationCheck if your organization is covered by the **General Rule** or a **Special Rule**.**Note:** Only a section 501(c)(7), (8), or (10) organization can check boxes for both the General Rule and a Special Rule. See instructions.**General Rule**

- ☒
- For an organization filing Form 990, 990-EZ, or 990-PF that received, during the year, contributions totaling \$5,000 or more (in money or property) from any one contributor. Complete Parts I and II. See instructions for determining a contributor's total contributions.

Special Rules

- ☐ For an organization described in section 501(c)(3) filing Form 990 or 990-EZ that met the 33 $\frac{1}{3}$ % support test of the regulations under sections 509(a)(1) and 170(b)(1)(A)(vi), that checked Schedule A (Form 990 or 990-EZ), Part II, line 13, 16a, or 16b, and that received from any one contributor, during the year, total contributions of the greater of **(1)** \$5,000; or **(2)** 2% of the amount on (i) Form 990, Part VIII, line 1h; or (ii) Form 990-EZ, line 1. Complete Parts I and II.
- ☐ For an organization described in section 501(c)(7), (8), or (10) filing Form 990 or 990-EZ that received from any one contributor, during the year, total contributions of more than \$1,000 *exclusively* for religious, charitable, scientific, literary, or educational purposes, or for the prevention of cruelty to children or animals. Complete Parts I (entering "N/A" in column (b) instead of the contributor name and address), II, and III.
- ☐ For an organization described in section 501(c)(7), (8), or (10) filing Form 990 or 990-EZ that received from any one contributor, during the year, contributions *exclusively* for religious, charitable, etc., purposes, but no such contributions totaled more than \$1,000. If this box is checked, enter here the total contributions that were received during the year for an *exclusively* religious, charitable, etc., purpose. Don't complete any of the parts unless the **General Rule** applies to this organization because it received *nonexclusively* religious, charitable, etc., contributions totaling \$5,000 or more during the year ▶ \$ _____

Caution: An organization that isn't covered by the General Rule and/or the Special Rules doesn't file Schedule B (Form 990, 990-EZ, or 990-PF), but it **must** answer "No" on Part IV, line 2, of its Form 990; or check the box on line H of its Form 990-EZ or on its Form 990-PF, Part I, line 2, to certify that it doesn't meet the filing requirements of Schedule B (Form 990, 990-EZ, or 990-PF).

Name of organization Rare Species Conservatory Foundation	Employer identification number 65-0560456
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Part I **Contributors** (see instructions). Use duplicate copies of Part I if additional space is needed.

(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
1	Miami Foundation 200 South Biscayne Blvd, Suite 505 Miami FL 331315330	\$ 75,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
2	Hufty Foundation 580 Village Blvd, Suite 110 West Palm Beach FL 33409	\$ 12,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
3	Fish and Wildlife Foundation of FL PO Box 11010 Tallahassee FL 32302	\$ 20,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
4	FIU Foundation MARC 5th Floor, 11200 SW 8th Street Miami FL 33199	\$ 308,500.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
5	FIU CCD MARC 5th Floor, 11200 SW 8th Street Miami FL 33199	\$ 429,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
6	Dr Terry Root 7910 Kennedy Lane Sarasota FL 34240	\$ 60,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)

Name of organization Rare Species Conservatory Foundation	Employer identification number 65-0560456
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Part I **Contributors** (see instructions). Use duplicate copies of Part I if additional space is needed.

(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
7	American Endowment Foundation 3700 Darrow Road, Suite 118 Hudson OH 44236	\$ 30,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
8	Fox Benton 8818 Stable Crest Blvd Houston TX 77024	\$ 55,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
9	Rasmussen Family Foundation 1800 Red Mountain Drive Santa Clara UT 84765	\$ 30,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
10	Goody Two Shoes 6345 NW 23rd Court Boca Raton FL 33496	\$ 7,500.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
11	Lora Parque Fundacion Av. Loro Parque, 38400 Punta Brava -----	\$ 29,962.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
12	RWDC Industries PO Box 80865 Athens GA 30608	\$ 135,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)

Name of organization Rare Species Conservatory Foundation	Employer identification number 65-0560456
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Part I **Contributors** (see instructions). Use duplicate copies of Part I if additional space is needed.

(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
13	JP Morgan Charitable Giving Fund 165 Township Line Road, Suite 1200 Jenkintown PA 19046	\$ 5,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
14	National Geographic Society 1145 17th Street NW Washington DC 20036	\$ 30,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
15	National Audubon Society 225Yarick Street 7th Floor New York NY 10014	\$ 11,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
16	US Fish and Wildlife Service 1875 Century Blvd, Suite 310 Atlanta GA 303453310	\$ 20,000.	Person <input checked="" type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)
17	Sister and Sister LLC 112 Cruiser Road North North Palm Beach FL 33408	\$ 350,000.	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input checked="" type="checkbox"/> (Complete Part II for noncash contributions.)
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions.)

Employer identification number

65-0560456

Part II

(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
17	Real property which is located at 1104 E Road Loxahatchee, FL 33470	\$ 350,000.	09/24/2018
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----
(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions.)	(d) Date received
-----	----- ----- ----- -----	\$ -----	-----

Name of organization Rare Species Conservatory Foundation	Employer identification number 65-0560456
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Part III **Exclusively religious, charitable, etc., contributions to organizations described in section 501(c)(7), (8), or (10) that total more than \$1,000 for the year from any one contributor.** Complete columns (a) through (e) and the following line entry. For organizations completing Part III, enter the total of *exclusively* religious, charitable, etc., contributions of **\$1,000 or less** for the year. (Enter this information once. See instructions.) ► \$ _____

Use duplicate copies of Part III if additional space is needed.

(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----

(e) Transfer of gift	
Transferee's name, address, and ZIP + 4	Relationship of transferor to transferee
----- ----- -----	----- ----- -----

(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----

(e) Transfer of gift	
Transferee's name, address, and ZIP + 4	Relationship of transferor to transferee
----- ----- -----	----- ----- -----

(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----

(e) Transfer of gift	
Transferee's name, address, and ZIP + 4	Relationship of transferor to transferee
----- ----- -----	----- ----- -----

(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----

(e) Transfer of gift	
Transferee's name, address, and ZIP + 4	Relationship of transferor to transferee
----- ----- -----	----- ----- -----

**SCHEDULE D
(Form 990)**

Department of the Treasury
Internal Revenue Service

Supplemental Financial Statements

▶ **Complete if the organization answered "Yes" on Form 990, Part IV, line 6, 7, 8, 9, 10, 11a, 11b, 11c, 11d, 11e, 11f, 12a, or 12b.**
▶ **Attach to Form 990.**

▶ **Go to www.irs.gov/Form990 for instructions and the latest information.**

OMB No. 1545-0047

2018

**Open to Public
Inspection**

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Part I Organizations Maintaining Donor Advised Funds or Other Similar Funds or Accounts.

Complete if the organization answered "Yes" on Form 990, Part IV, line 6.

	(a) Donor advised funds	(b) Funds and other accounts
1 Total number at end of year		
2 Aggregate value of contributions to (during year)		
3 Aggregate value of grants from (during year) .		
4 Aggregate value at end of year		
5 Did the organization inform all donors and donor advisors in writing that the assets held in donor advised funds are the organization's property, subject to the organization's exclusive legal control?		<input type="checkbox"/> Yes <input type="checkbox"/> No
6 Did the organization inform all grantees, donors, and donor advisors in writing that grant funds can be used only for charitable purposes and not for the benefit of the donor or donor advisor, or for any other purpose conferring impermissible private benefit?		<input type="checkbox"/> Yes <input type="checkbox"/> No

Part II Conservation Easements.

Complete if the organization answered "Yes" on Form 990, Part IV, line 7.

1 Purpose(s) of conservation easements held by the organization (check all that apply). <input type="checkbox"/> Preservation of land for public use (e.g., recreation or education) <input type="checkbox"/> Preservation of a historically important land area <input type="checkbox"/> Protection of natural habitat <input type="checkbox"/> Preservation of a certified historic structure <input type="checkbox"/> Preservation of open space	
2 Complete lines 2a through 2d if the organization held a qualified conservation contribution in the form of a conservation easement on the last day of the tax year.	
a Total number of conservation easements	2a
b Total acreage restricted by conservation easements	2b
c Number of conservation easements on a certified historic structure included in (a)	2c
d Number of conservation easements included in (c) acquired after 7/25/06, and not on a historic structure listed in the National Register	2d
3 Number of conservation easements modified, transferred, released, extinguished, or terminated by the organization during the tax year ▶	
4 Number of states where property subject to conservation easement is located ▶	
5 Does the organization have a written policy regarding the periodic monitoring, inspection, handling of violations, and enforcement of the conservation easements it holds?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6 Staff and volunteer hours devoted to monitoring, inspecting, handling of violations, and enforcing conservation easements during the year ▶	
7 Amount of expenses incurred in monitoring, inspecting, handling of violations, and enforcing conservation easements during the year ▶ \$	
8 Does each conservation easement reported on line 2(d) above satisfy the requirements of section 170(h)(4)(B)(i) and section 170(h)(4)(B)(ii)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9 In Part XIII, describe how the organization reports conservation easements in its revenue and expense statement, and balance sheet, and include, if applicable, the text of the footnote to the organization's financial statements that describes the organization's accounting for conservation easements.	

Part III Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets.

Complete if the organization answered "Yes" on Form 990, Part IV, line 8.

1a If the organization elected, as permitted under SFAS 116 (ASC 958), not to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide, in Part XIII, the text of the footnote to its financial statements that describes these items.	
b If the organization elected, as permitted under SFAS 116 (ASC 958), to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide the following amounts relating to these items: (i) Revenue included on Form 990, Part VIII, line 1 ▶ \$ (ii) Assets included in Form 990, Part X ▶ \$	
2 If the organization received or held works of art, historical treasures, or other similar assets for financial gain, provide the following amounts required to be reported under SFAS 116 (ASC 958) relating to these items: a Revenue included on Form 990, Part VIII, line 1 ▶ \$ b Assets included in Form 990, Part X ▶ \$	

Part III Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets (continued)

3 Using the organization's acquisition, accession, and other records, check any of the following that are a significant use of its collection items (check all that apply):

- a** ☐ Public exhibition
b ☐ Scholarly research
c ☐ Preservation for future generations
d ☐ Loan or exchange programs
e ☐ Other _____

4 Provide a description of the organization's collections and explain how they further the organization's exempt purpose in Part XIII.

5 During the year, did the organization solicit or receive donations of art, historical treasures, or other similar assets to be sold to raise funds rather than to be maintained as part of the organization's collection? ☐ Yes ☐ No

Part IV Escrow and Custodial Arrangements.

Complete if the organization answered "Yes" on Form 990, Part IV, line 9, or reported an amount on Form 990, Part X, line 21.

1a Is the organization an agent, trustee, custodian or other intermediary for contributions or other assets not included on Form 990, Part X? ☐ Yes ☐ No

b If "Yes," explain the arrangement in Part XIII and complete the following table:

	Amount
c Beginning balance	1c
d Additions during the year	1d
e Distributions during the year	1e
f Ending balance	1f

2a Did the organization include an amount on Form 990, Part X, line 21, for escrow or custodial account liability? ☐ Yes ☐ No

b If "Yes," explain the arrangement in Part XIII. Check here if the explanation has been provided on Part XIII ☐

Part V Endowment Funds.

Complete if the organization answered "Yes" on Form 990, Part IV, line 10.

	(a) Current year	(b) Prior year	(c) Two years back	(d) Three years back	(e) Four years back
1a Beginning of year balance					
b Contributions					
c Net investment earnings, gains, and losses					
d Grants or scholarships					
e Other expenditures for facilities and programs					
f Administrative expenses					
g End of year balance					

2 Provide the estimated percentage of the current year end balance (line 1g, column (a)) held as:

- a** Board designated or quasi-endowment %
b Permanent endowment %
c Temporarily restricted endowment %

The percentages on lines 2a, 2b, and 2c should equal 100%.

3a Are there endowment funds not in the possession of the organization that are held and administered for the organization by:

- (i)** unrelated organizations
(ii) related organizations

	Yes	No
3a(i)		
3a(ii)		
3b		

b If "Yes" on line 3a(ii), are the related organizations listed as required on Schedule R?

4 Describe in Part XIII the intended uses of the organization's endowment funds.

Part VI Land, Buildings, and Equipment.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11a. See Form 990, Part X, line 10.

Description of property	(a) Cost or other basis (investment)	(b) Cost or other basis (other)	(c) Accumulated depreciation	(d) Book value
1a Land	0.	1,285,810.		1,285,810.
b Buildings		637,614.	16,814.	620,800.
c Leasehold improvements				
d Equipment		68,853.	66,968.	1,885.
e Other		7,575.	7,575.	0.
Total. Add lines 1a through 1e. (Column (d) must equal Form 990, Part X, column (B), line 10c.)				1,908,495.

Part VII Investments—Other Securities.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11b. See Form 990, Part X, line 12.

(a) Description of security or category (including name of security)	(b) Book value	(c) Method of valuation: Cost or end-of-year market value
(1) Financial derivatives		
(2) Closely-held equity interests		
(3) Other _____		
(A) _____		
(B) _____		
(C) _____		
(D) _____		
(E) _____		
(F) _____		
(G) _____		
(H) _____		
Total. (Column (b) must equal Form 990, Part X, col. (B) line 12.) ►		

Part VIII Investments—Program Related.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11c. See Form 990, Part X, line 13.

(a) Description of investment	(b) Book value	(c) Method of valuation: Cost or end-of-year market value
(1) _____		
(2) _____		
(3) _____		
(4) _____		
(5) _____		
(6) _____		
(7) _____		
(8) _____		
(9) _____		
Total. (Column (b) must equal Form 990, Part X, col. (B) line 13.) ►		

Part IX Other Assets.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11d. See Form 990, Part X, line 15.

(a) Description	(b) Book value
(1) _____	
(2) _____	
(3) _____	
(4) _____	
(5) _____	
(6) _____	
(7) _____	
(8) _____	
(9) _____	
Total. (Column (b) must equal Form 990, Part X, col. (B) line 15.) ►	

Part X Other Liabilities.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11e or 11f. See Form 990, Part X, line 25.

1.	(a) Description of liability	(b) Book value	
	(1) Federal income taxes		
	(2) Payroll Taxes Payable	0.	
	(3)		
	(4)		
	(5)		
	(6)		
	(7)		
	(8)		
	(9)		
	Total. (Column (b) must equal Form 990, Part X, col. (B) line 25.) ►	0.	

2. Liability for uncertain tax positions. In Part XIII, provide the text of the footnote to the organization's financial statements that reports the organization's liability for uncertain tax positions under FIN 48 (ASC 740). Check here if the text of the footnote has been provided in Part XIII ☐

[illegible]

**SCHEDULE F
(Form 990)**

Department of the Treasury
Internal Revenue Service

Statement of Activities Outside the United States

► **Complete if the organization answered "Yes" on Form 990, Part IV, line 14b, 15, or 16.**

► **Attach to Form 990.**

► **Go to www.irs.gov/Form990 for instructions and the latest information.**

OMB No. 1545-0047

2018

**Open to Public
Inspection**

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Part I General Information on Activities Outside the United States. Complete if the organization answered "Yes" on Form 990, Part IV, line 14b.

- 1 For grantmakers.** Does the organization maintain records to substantiate the amount of its grants and other assistance, the grantees' eligibility for the grants or assistance, and the selection criteria used to award the grants or assistance? ☒ **Yes** ☐ **No**
- 2 For grantmakers.** Describe in Part V the organization's procedures for monitoring the use of its grants and other assistance outside the United States.

3 Activities per Region. (The following Part I, line 3 table can be duplicated if additional space is needed.)

(a) Region	(b) Number of offices in the region	(c) Number of employees, agents, and independent contractors in the region	(d) Activities conducted in the region (by type) (such as, fundraising, program services, investments, grants to recipients located in the region)	(e) If activity listed in (d) is a program service, describe specific type of service(s) in the region	(f) Total expenditures for and investments in the region
(1) Central America	0	0	Program Service	See Schedule F - Part V	16,283.
(2) Sub-Saharan Africa	0	0	Program Service	See Schedule F- Part V	100,000.
(3)					
(4)					
(5)					
(6)					
(7)					
(8)					
(9)					
(10)					
(11)					
(12)					
(13)					
(14)					
(15)					
(16)					
(17)					
3a Subtotal	0	0			116,283.
b Total from continuation sheets to Part I					
c Totals (add lines 3a and 3b)	0	0			116,283.

For Paperwork Reduction Act Notice, see the Instructions for Form 990.

Schedule F (Form 990) 2018

Part II **Grants and Other Assistance to Organizations or Entities Outside the United States.** Complete if the organization answered "Yes" on Form 990, Part IV, line 15, for any recipient who received more than \$5,000. Part II can be duplicated if additional space is needed.

1	(a) Name of organization	(b) IRS code section and EIN (if applicable)	(c) Region	(d) Purpose of grant	(e) Amount of cash grant	(f) Manner of cash disbursement	(g) Amount of noncash assistance	(h) Description of noncash assistance	(i) Method of valuation (book, FMV, appraisal, other)
(1)			Central America	Wildlife Research	5,000.	Wire Transfer	11,283.	Supplies & equipment	Purchase price
(2)			Sub-Saharan Africa	Wildlife Cons	100,000.	Wire Transfer			
(3)									
(4)									
(5)									
(6)									
(7)									
(8)									
(9)									
(10)									
(11)									
(12)									
(13)									
(14)									
(15)									
(16)									

2 Enter total number of recipient organizations listed above that are recognized as charities by the foreign country, recognized as tax-exempt by the IRS, or for which the grantee or counsel has provided a section 501(c)(3) equivalency letter **2**

3 Enter total number of other organizations or entities **2**

Part III **Grants and Other Assistance to Individuals Outside the United States.** Complete if the organization answered "Yes" on Form 990, Part IV, line 16.
Part III can be duplicated if additional space is needed.

(a) Type of grant or assistance	(b) Region	(c) Number of recipients	(d) Amount of cash grant	(e) Manner of cash disbursement	(f) Amount of noncash assistance	(g) Description of noncash assistance	(h) Method of valuation (book, FMV, appraisal, other)
(1)							
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							
(11)							
(12)							
(13)							
(14)							
(15)							
(16)							
(17)							
(18)							

Part IV Foreign Forms

- 1** Was the organization a U.S. transferor of property to a foreign corporation during the tax year? *If "Yes," the organization may be required to file Form 926, Return by a U.S. Transferor of Property to a Foreign Corporation (see Instructions for Form 926)* ☐ Yes ☒ No
- 2** Did the organization have an interest in a foreign trust during the tax year? *If "Yes," the organization may be required to separately file Form 3520, Annual Return To Report Transactions With Foreign Trusts and Receipt of Certain Foreign Gifts, and/or Form 3520-A, Annual Information Return of Foreign Trust With a U.S. Owner (see Instructions for Forms 3520 and 3520-A; don't file with Form 990)* ☐ Yes ☒ No
- 3** Did the organization have an ownership interest in a foreign corporation during the tax year? *If "Yes," the organization may be required to file Form 5471, Information Return of U.S. Persons With Respect To Certain Foreign Corporations (see Instructions for Form 5471)* ☐ Yes ☒ No
- 4** Was the organization a direct or indirect shareholder of a passive foreign investment company or a qualified electing fund during the tax year? *If "Yes," the organization may be required to file Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund (see Instructions for Form 8621)* ☐ Yes ☒ No
- 5** Did the organization have an ownership interest in a foreign partnership during the tax year? *If "Yes," the organization may be required to file Form 8865, Return of U.S. Persons With Respect to Certain Foreign Partnerships (see Instructions for Form 8865)* ☐ Yes ☒ No
- 6** Did the organization have any operations in or related to any boycotting countries during the tax year? *If "Yes," the organization may be required to separately file Form 5713, International Boycott Report (see Instructions for Form 5713; don't file with Form 990)* ☐ Yes ☒ No

Part V **Supplemental Information**

Provide the information required by Part I, line 2 (monitoring of funds); Part I, line 3, column (f) (accounting method; amounts of investments vs. expenditures per region); Part II, line 1 (accounting method); Part III (accounting method); and Part III, column (c) (estimated number of recipients), as applicable. Also complete this part to provide any additional information. See instructions.

Pt I Line 2: Grant Monitoring: All grants are required to have a detailed budget,
expense tracking along with interim and follow-up reports, in addition to reporting
requirements by the original granting agency.

SCHEDULE M
(Form 990)

Department of the Treasury
Internal Revenue Service

Noncash Contributions

- ▶ **Complete if the organizations answered "Yes" on Form 990, Part IV, lines 29 or 30.**
▶ **Attach to Form 990.**
▶ **Go to www.irs.gov/Form990 for the latest information.**

OMB No. 1545-0047

2018

**Open to Public
Inspection**

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Part I **Types of Property**

	(a) Check if applicable	(b) Number of contributions or items contributed	(c) Noncash contribution amounts reported on Form 990, Part VIII, line 1g	(d) Method of determining noncash contribution amounts
1 Art—Works of art				
2 Art—Historical treasures				
3 Art—Fractional interests				
4 Books and publications				
5 Clothing and household goods				
6 Cars and other vehicles				
7 Boats and planes				
8 Intellectual property				
9 Securities—Publicly traded				
10 Securities—Closely held stock				
11 Securities—Partnership, LLC, or trust interests				
12 Securities—Miscellaneous				
13 Qualified conservation contribution—Historic structures				
14 Qualified conservation contribution—Other				
15 Real estate—Residential				
16 Real estate—Commercial	X	1	350,000.	Appraisal
17 Real estate—Other				
18 Collectibles				
19 Food inventory				
20 Drugs and medical supplies				
21 Taxidermy				
22 Historical artifacts				
23 Scientific specimens				
24 Archeological artifacts				
25 Other ▶ ()				
26 Other ▶ ()				
27 Other ▶ ()				
28 Other ▶ ()				

29 Number of Forms 8283 received by the organization during the tax year for contributions for which the organization completed Form 8283, Part IV, Donee Acknowledgement

29

30a During the year, did the organization receive by contribution any property reported in Part I, lines 1 through 28, that it must hold for at least three years from the date of the initial contribution, and which isn't required to be used for exempt purposes for the entire holding period?

	Yes	No
30a		X
31		X
32a		X
33		

b If "Yes," describe the arrangement in Part II.

31 Does the organization have a gift acceptance policy that requires the review of any nonstandard contributions?

32a Does the organization hire or use third parties or related organizations to solicit, process, or sell noncash contributions?

b If "Yes," describe in Part II.

33 If the organization didn't report an amount in column (c) for a type of property for which column (a) is checked, describe in Part II.

Part II

Supplemental Information. Provide the information required by Part I, lines 30b, 32b, and 33, and whether the organization is reporting in Part I, column (b), the number of contributions, the number of items received, or a combination of both. Also complete this part for any additional information.

[illegible]

SCHEDULE O
(Form 990 or 990-EZ)

Department of the Treasury
Internal Revenue Service

Supplemental Information to Form 990 or 990-EZ

Complete to provide information for responses to specific questions on
Form 990 or 990-EZ or to provide any additional information.

► Attach to Form 990 or 990-EZ.

► Go to www.irs.gov/Form990 for the latest information.

OMB No. 1545-0047

2018

**Open to Public
Inspection**

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Pt VI, Line 11b: A copy of the 990 is provided to the Directors before filing.

The 990 with backup is prepared with and reviewed by a tax accounting professional and sent back to RSCF for corrections. After all corrections are made and the return is reviewed by the accountant, a clean copy is prepared for signing and PDF format, and distributed to the directors for approval. The final copy is signed, updated to PDF for redistribution to the directors, and filed with the IRS.

Pt VI, Line 12c: Conflict of Interest Policy: See schedule O - Attachment

Pt VI, Line 19: Whistleblower Protection Policy: See Schedule O - Attachment

Pt VIII: Non Cash Contribution - the \$350,000 non cash contribution was a once-only, unusual gift by the seller of a property adjacent to the Conservatory. The unusual gift facilitated the Foundation's strategic acquisition of the adjoining property enabling expansion of existing facilities and greater scope of work performed under the Foundation's mission.

Pt IX, Line 24e:

Description: Other Conservation Program support

Total: \$150,033

Program services: \$150,033

Management and general: \$0

Fundraising: \$0

Description: Equipment

Total: \$12,290

Program services: \$12,290

Management and general: \$0

Fundraising: \$0

Name of the organization	Employer identification number
Rare Species Conservatory Foundation	65-0560456

Description: Postage and printing

Total: \$1,760

Program services: \$1,760

Management and general: \$0

Fundraising: \$0

Description: Veterinary services

Total: \$2,112

Program services: \$2,112

Management and general: \$0

Fundraising: \$0

Description: License

Total: \$1,203

Program services: \$1,203

Management and general: \$0

Fundraising: \$0

Description: Dues and Subscription

Total: \$335

Program services: \$335

Management and general: \$0

Fundraising: \$0

Description: Real estate taxes

Total: \$5,560

Program services: \$5,560

Management and general: \$0

Fundraising: \$0

Description: Contracted Services

Total: \$14,311

Name of the organization

Rare Species Conservatory Foundation

Employer identification number

65-0560456

Program services: \$14,311

Management and general: \$0

Fundraising: \$0

Description: Paypal Fees

Total: \$1,823

Program services: \$1,823

Management and general: \$0

Fundraising: \$0

Name Rare Species Conservatory Foundation			Employer Identification No. 65-0560456	
Description	(A) Total	(B) Program services	(C) Management and general	(D) Fundraising
Other Conservation Program support	150,033.	150,033.	0.	0.
Equipment	12,290.	12,290.	0.	0.
Postage and printing	1,760.	1,760.	0.	0.
Veterinary services	2,112.	2,112.	0.	0.
License	1,203.	1,203.	0.	0.
Dues and Subscription	335.	335.	0.	0.
Real estate taxes	5,560.	5,560.	0.	0.
Contracted Services	14,311.	14,311.	0.	0.
Paypal Fees	1,823.	1,823.	0.	0.
Total to Form 990, Part IX, line 24e	189,427.	189,427.	0.	0.

2018 990 Misc. responses:

Schedule F, Parts I and II

Central America/Caribbean (\$16,283 total):

Dominica:

- \$5000 (wire transfer) to support post-hurricane parrot surveys and outreach activities associated with the Caribbean Endemic Birds Festival
- \$11,283 (direct expenses by Reillo via credit card, cash and checks, year-round) to provide Dominica's Forestry, Wildlife and Parks Division supplies, equipment, field gear, and maintenance/cleanup materials for the Parrot Conservation and Research Program and post-hurricane-Maria emergency supplies, materials and equipment. Material support is part of RSCF's longstanding conservation-program collaboration with Dominica's Forestry, Wildlife and Parks Division.

Sub-Saharan Africa (\$100,000 total)

Kenya: \$55,000 (via wire transfer) to Rhino Ark Charitable Trust for field operations, wildlife protection and surveillance, and community outreach under the Bongo Surveillance Programme (BSP). The bongo program includes species recovery planning and implementation, bongo antelope population management, field monitoring, community education and awareness, wildlife clubs, antelope surveillance, population surveys, and data/sample collection. All field bongo research is coordinated between the Bongo Surveillance Programme, Rhino Ark Charitable Trust and the Kenya Wildlife Service.

Cote d'Ivoire: \$15,000 (wire transfer) disbursed to continue project entitled "In- and Ex-Situ Conservation of the West-African Slender-snouted Crocodile (*Mecistops cataphractus*) in the Upper Guinea Forest Region." See project description in Part III, Statement of Program Service Accomplishments for specifics. Project is implemented in situ by Research Associate Dr. Matthew Shirley in collaboration with the Abidjan National Zoo and the Ivorian national parks service (OIPR). Afrique Nature, an Ivorian NGO, serves as in-country fiduciary for receipt of funds granted to RSCF for project implementation. Expenses include field-research running costs. Research and conservation activities were carried out in Cote d'Ivoire and Ghana during the year 2018. In Cote d'Ivoire, nationwide surveys were continued with work in two national parks, one community reserve, and seven classified forests, as were radio telemetry follows of wild crocodiles in Taï National Park. These surveys will further facilitate the development of distribution and habitat suitability models for the slender-snouted crocodiles, as well as inform reintroduction and conservation planning.

Madagascar: \$30,000 (wire transfer). Project-restricted funds wired from RSCF to in-country program fiduciary MICET on behalf of RSCF's collaboration with the Lemur Conservation Foundation. Dr. Erik Patel, LCF's Program Director and Research Associate with FIU's Tropical Conservation Institute, led *in situ* lemur research, community conservation outreach, sustainable livelihood projects, and a multitude of hands-on, grass-roots efforts to protect and conserve endangered lemurs and their habitats. Funds were expended to support direct, on-the-ground, project costs and engage essential, local personnel in project

implementation. See Madagascar program description in *Part III, Statement of Program Service Accomplishments*.

Schedule O:

Part VI Line 12c:

Conflict of Interest Policy. RSCF Directors are requested to disclose any conflict of interest annually. Any and all potential conflicts must be disclosed via signed letter monitored by each program's director and/or RSCF's President. Such disclosure, by notice in writing, shall be made by any and all interested parties to RSCF's full Board of Directors in all conflicts of interest including, but not limited to, the following:

- A board member's relationship to other members
- If a board member or his/her organization or financial interest stands to benefit from any RSCF transaction
- A board member's organization and/or financial interest receives RSCF grant funds
- A board member or staff member is part of the governing body of any contributor to the RSCF
- A board member in any way influences, or attempts to influence, any contributor to the RSCF

Part VI, Line 19:

Whistleblower Protection Policy, Rare Species Conservatory Foundation, Inc. (RSCF):

A. Application. This Whistleblower Protection Policy applies to all of the RSCF's staff, whether full-time, part-time, or temporary employees, to all volunteers, to all who provide contract services, and to all officers and directors, each of whom shall be entitled to protection.

B. Reporting Credible Information. A protected person shall be encouraged to report information relating to illegal practices or violations of policies of RSCF (a "Violation") that such person in good faith has reasonable cause to believe is credible. Information shall be reported to RSCF's President (As Compliance Officer), unless the report relates to the President, in which case the report shall be made to any officer or director of RSCF's Board of Directors, or RSCF's Curator, whom shall be responsible to provide an alternative procedure. Anyone reporting a Violation must act in good faith, and have reasonable grounds for believing that the information shared in the report indicates that a Violation has occurred.

C. Investigating Information. The Compliance Officer shall promptly investigate each such report and prepare a written report to the Board of Directors. In connection with such investigation all persons entitled to protection shall provide the Compliance Officer with credible information. All actions of the Compliance Officer in receiving and investigating the report and additional information shall endeavor to protect the confidentiality of all persons entitled to protection.

D. Confidentiality. RSCF encourages anyone reporting a Violation to identify himself or herself when making a report in order to facilitate the investigation of the Violation. However, reports may be submitted anonymously by filing a written complaint by e-mail (info@rarespecies.org) or regular mail, addressed to the RSCF Board of Directors or President. Reports of Violations or suspected Violations

will be kept confidential to the extent possible, with the understanding that confidentiality may not be maintained where identification is required by law or in order to enable RSCF or law enforcement to conduct an adequate investigation.

E. Protection from Retaliation. No person entitled to protection shall be subjected to retaliation, intimidation, harassment, or other adverse action for reporting information in accordance with this Policy. Any person entitled to protection who believes that he or she is the subject of any form of retaliation for such participation should immediately report the same as a violation of and in accordance with this Policy. Any individual within the Organization who retaliates against another individual who has reported a Violation in good faith or who, in good faith, has cooperated in the investigation of a Violation is subject to discipline, including termination of employment or volunteer status.

F. Dissemination and Implementation of Policy. This Policy shall be available and disseminated in writing to all affected constituencies. RSCF shall adopt procedures for implementation of this Policy, which may include, but are not limited to, the following:

- (1) documenting reported Violations;
- (2) working with legal counsel to decide whether the reported Violation requires review by the Compliance Officer or should be directed to another person or department;
- (3) keeping RSCF's board of directors informed of the progress of the investigation;
- (4) interviewing employees;
- (5) requesting and reviewing relevant documents, and/or requesting that an auditor or counsel investigate the complaint; and
- (6) preparing a written record of the reported violation and its disposition, to be retained for a specified period of time.

The procedures for implementation of this Policy shall include a process for communicating with a complainant about the status of the complaint, to the extent that the complainant's identity is disclosed, and to the extent consistent with any privacy or confidentiality limitations.

RARE SPECIES CONSERVATORY FOUNDATION, INC.

EIN: 65-0560456

FORM: 990

TAX YEAR: 2018

PART III: STATEMENT OF PROGRAM SERVICE ACCOMPLISHMENTS

Mission and Scope: RSCF is a 501(c)(3), non-profit organization dedicated to preserving biodiversity through hands-on conservation programs rooted in sound science. RSCF employs the “flagship species” concept to identify and conserve high profile, priority species in order to leverage protection for the ecosystems they represent. Flagship species breeding and conservation efforts, along with field-based research, habitat protection and local capacity building, are directed toward long-term, regional-scale biodiversity preservation. RSCF designs sustainable recovery, reintroduction and protection programs for endangered species in the wild, and works collaboratively with governments and other conservation/research organizations to restore target species and protect critical habitats. RSCF also provides consulting and technical services to conservation teams, and forms educational, political and economic partnerships to expedite specific habitat and species conservation projects.

Please also see detailed descriptions of program activities at www.rarespecies.org.

I. 2018 Wildlife breeding and research activities

The Red-browed Amazon parrot: The endangered Amazon parrot *Amazona rhodocorytha* is a top priority for long-term captive breeding and management, from which a sustainable, *in situ* recovery effort is evolving. RSCF holds the only known breeding group in North America. The captive effort serves as a program platform to facilitate global management of the species and *in situ* conservation investment in Brazil. The Red-brow is a parrot of highest conservation priority, as identified in the 2000-2001 Status Survey and Conservation Action Plan for Parrots, published in 2000 by the IUCN (World Conservation Union) in coordination with the World Parrot Trust. In conjunction with IBAMA/ICMBIO (the Brazilian government wildlife authority), RSCF and partnering NGO’s (Zoo Curitiba, Ideia Ambiental, Associação de Pesquisa e Conservação da Vida Silvestre, Fundação Neotrópica do Brasil) seek to assess the distribution, ecology and status of the species throughout its range, repatriate confiscated *in situ* and captive-bred *ex situ* Red-brows, and transfer title for all *ex situ* Red-brows to the Brazilian government in recognition of Brazil’s governing authority and progressive conservation and law enforcement efforts. RSCF aims to return a core population of Red-brows to Brazil as necessary to complement an existing breeding-and-rehabilitation program. During 2018, RSCF Director Reillo continued communications with Pedro Scherer Neto, point person for the Red-brow effort in Curitiba, Brazil. Program development during 2018 included continuation of on- and off-exhibit aviaries at Tampa’s Lowry Park Zoo. The Zoo is engaging in a progressive collaboration with RSCF on behalf of Red-brows, helping manage the North American population, promoting staff development, conservation education and outreach, and helping to update the studbook initiated by Reillo over 20 years ago. In 2014, this partnership sponsored a grant to Fundação Neotrópica do Brasil entitled, “Distribution, Ecology and Conservation Status of the Red-browed Parrot *Amazona rhodocorytha* in the State of Minas Gerais, Brazil (see *Conservation and Research Program Field Projects*, below).” In addition, a modest grant from The Batchelor Foundation enabled RSCF to compile an historical, video mini-documentary of the Red-brow recovery effort, released mid-2015 (Black Door Films, Inc.). Ultimately, the RSCF-TLPZ-Brazil collaboration will coordinate husbandry and captive-breeding methods, prepare field recovery strategies, and implement international governmental regulations to thwart trade in the species and reinforce species-level authority and sovereignty by the Brazilian government. During 2015, after 23 years of artificially incubating and hand-rearing all Red-brow offspring at the Conservatory, RSCF allowed breeding Red-brow pairs to naturally incubate and rear their young. Seven additional Red-brows were added to the flock in 2018.

The white-bellied Caique parrot: RSCF’s 2018 on-site population of *Pionites leucogaster xanthomeria* totaled six breeding pairs. In 1999, RSCF concluded its long-term breeding and research program on the white-bellied caique

parrot. After compiling years of reproductive and genetic data from a founder breeding population into a husbandry manual and population management system, RSCF developed a breeding protocol for this species, which is now used in aviculture worldwide. In 2000, RSCF's focus turned to placing the remaining genetically important stock with zoological institutions in the U.S. and the Graeme Hall Nature Sanctuary in Barbados (birds delivered in early 2001) and continuing to support the genetic and husbandry database. During 2001, RSCF completed the reduction of the Conservatory's white-belly inventory, with the remaining birds to be maintained indefinitely at the Loxahatchee facility. Since early 2002, *Pionites* are only reproduced by special request from wildlife parks, accredited aviaries, or avicultural centers.

The East African Bongo: One of the most spectacular mammals bred at the Conservatory is the Mountain (or East African) Bongo, a large antelope facing extinction in the wild. The vegetation and climate at the Conservatory have proven ideal for propagating and researching this shy, forest-dwelling bovid. In 2003, RSCF commenced an inter-institutional project with the U.N. Foundation and U.N. Development Programme to establish an *in situ* breeding program for bongo in Kenya at the Mt. Kenya Wildlife Conservancy. Entitled ***Repatriation of Mountain Bongo Antelope to Mt. Kenya World Heritage Site***, this initiative represents the successful completion of the first of several conservation steps needed to reestablish a self-sustaining, wild population of bongo on Mt. Kenya and in the Aberdares and surrounding ecosystems, and stimulate a broad base of conservation program support for the Mt. Kenya World Heritage Site and Aberdares National Park and Conservation Area—both global-priority biodiversity areas.

RSCF coordinated the project as an NGO contractor to UNDP, was consignor for the bongo export (receiving legal title to all animals donated to the project and repatriated to Kenya), and also donated four bongo from the RSCF population to the effort. In 2009, RSCF Research Associate Lyndon Estes completed his Ph.D. at the University of Virginia, focusing on the ecology and habitat utilization of wild bongo in the Aberdares. This research complements other recovery efforts, both *ex situ* and *in situ*, by helping to identify appropriate habitat for sustainable reintroduction, train local guides and researchers, and bolster monitoring and protection of the remaining wild bongo population. Along with the United Nations Development Programme (Small Grants Programme) and partnering NGO's, RSCF helps sponsor the Aberdares bongo surveillance effort (BSP—Bongo Surveillance Programme, www.mountainbongo.org), coordinated with the local NGO Rhino Ark (www.rhinoark.org). On the *in situ* captive front, RSCF has provided technical and veterinary services to the Mt. Kenya Wildlife Conservancy and helped sponsor general husbandry and animal care for the repatriated bongo group. During 2007, RSCF completed formal collaborations with Dr. Michael Bruford, University of Cardiff, Wales, to genetically assess the wild Aberdares and Mt. Kenya populations via mtDNA and microsatellite analyses of field-collected dung samples. This program confirmed species identities and haplotype variation in wild populations, as it also trained a Kenyan graduate student in molecular genetics laboratory methodology. Co-sponsored by Rhino Ark, this trained technician has brought state-of-the-art molecular laboratory techniques and expertise back to Kenya. In addition to corroborating field teams' detection of bongo presence in the field, the analyses produced a microsatellite protocol (using bovid markers) for discriminating individual bongo genotypes from bongo dung. During 2007 RSCF donated an ELISA fluorimeter to Analabs, Ltd. (Nairobi) to assist in the isolation and identification of bovine infectious diseases that impact both wild and agricultural bovine populations. Early detection and intervention is critical to thwart periodic outbreaks of *Theileriosis*, rinderpest, hoof-and-mouth disease, and other viral and parasite-borne infections that cross between domestic and wild bovids.

A detailed summary of research findings and management recommendations can be found at www.rarespecies.org in the document entitled "Mountain Bongo Research Summary", compiled by former Research Associate Lyndon Estes. Current program expansion includes enhancing surveillance capacity for the BSP, providing direct support for the Bongo Program Coordinator and field staff within Rhino Ark, ongoing surveillance, monitoring and population assessment throughout the bongo's range, and continuing a comprehensive genetic assessment of all living bongo. Program partners, including White Oak Conservation Center and Micanopy Zoological Preserve (Florida) and European EEP institutions, have pledged direct and in-kind support for capacity building, field logistics, and tangible conservation implementation in the Aberdares and on Mt. Kenya. During 2018, RSCF transferred \$55,000 to the Rhino Ark Charitable Trust for ongoing BSP surveillance, protection and research activities in the field, largely with

support from a new program partner, The Texas Antelope Conservancy in Houston. During 2018, RSCF continued to develop the next repatriation plan with the Rhino Ark Charitable Trust, Ol Pejeta Conservancy, Mt. Kenya Wildlife Conservancy, Back to Africa and the National Bongo Task Force, while sustaining wild-population research and protection efforts with the BSP. The KWS-endorsed National Bongo Conservation Strategy will govern guide recovery actions over the next four years.

Florida Bongo Ranching Program: During 2018, RSCF continued coordinating Florida-based bongo management with its principal partner, the Micanopy Zoological Preserve, to help maintain a healthy *ex situ* bongo population and provide animals for repatriation and reintroduction in Kenya as necessary. RSCF developed the ranching initiative upon request by the Rhino Ark Charitable Trust and Bongo Surveillance Programme (working collaboratively with the Kenya Wildlife Service), which anticipate multiple *in situ* bongo management centers over the coming years. The ranches coordinate long-term breeding, management and surplus with RSCF and the International Studbook and contribute to *in situ* conservation via philanthropic support. All animal transactions are reported to the USDA and FWC in accordance with permit regulations. Ten bongo were transferred to Micanopy during 2018.

Other in-house projects: During 2015, RSCF phased out management efforts for Hawk-headed parrots (*Derophtus accipitrinus accipitrinus* and *D. a. fuscifrons*), primarily due to aging animals and the death, from old age, of the last-known, male Brazilian hawk-head in North America. RSCF continues to maintain a small group of the nominate race of hawk-heads, along with Golden conures (*Guaruba guarouba*), Pygmy marmosets (*Cebuella pygmaea*), Golden Lion Tamarins (*Leontopithecus rosalia*) and Golden-headed Lion Tamarins (*Leontopithecus chrysomelas*). RSCF participates in AZA (American Zoo and Aquarium Association)-sanctioned Species Survival Plans, Population Management Plans and studbooks for all housed species, and voluntarily maintains its animal database with ISIS, the International Species Information System. During 2018, pygmy marmoset breeding was again expanded to help recover the dwindling North American captive population, although the demographics of the population continue to pose significant, long-term challenges to recovery (male sex-ratio bias). RSCF maintains 9 family groups, most comprising senescing animals, although one group is still reproducing. RSCF's commitment to Golden-headed Lion Tamarins (*Leontopithecus chrysomelas*) and Golden Lion Tamarins (*Leontopithecus rosalia*) is unwavering and RSCF works closely with the population managers for both species.

Tropical Conservation Institute at Florida International University (FIU): RSCF and FIU formally teamed during 2014 to launch a broad interdisciplinary and international conservation platform named the Tropical Conservation Institute (TCI) under FIU's School of Environment, Arts and Society. A collaboration agreement between FIU and RSCF (executed in 2014), which establishes how TCI is coordinated and runs, links both organizations to a \$5M challenge grant agreement between The Batchelor Foundation and FIU, which establishes initial TCI operating capital and leverages incoming, new program revenues over five years.

A full prospectus for the Institute, including budget and program priorities, is available upon request.

Overview—FIU Tropical Conservation Institute, School of Environment, Arts and Society

Building upon its history of excellence in conservation education and research, FIU has established the Tropical Conservation Institute (TCI). In partnership with the Rare Species Conservatory Foundation (RSCF), the School of Environment, Arts and Society (SEAS) in the College of Arts & Sciences will stop extinctions by empowering FIU graduates and conservation practitioners to protect ecosystems and species in the tropics and sub-tropics. TCI will leverage SEAS' broad portfolio of research, education, and outreach programs focused on tropical and sub-tropical ecosystems. FIU's geographic expertise in conservation extends from South Florida to the Caribbean, Central and South America, Africa, the Pacific and Asia. These regions comprise the top global biodiversity hotspots - areas of exceptional species richness facing extraordinary threats. TCI will build upon the years of innovative and successful conservation methods and programs developed by RSCF and combine them with FIU programs to position TCI on the leading edge of tropical conservation action, education, research and outreach. The scope of the partnership will position TCI to be truly transformative on a global level.

The Need

Biodiversity, an essential foundation for a sustainable future, is being lost at an accelerating rate. We must act swiftly and decisively to protect biodiversity, and develop solutions to preserve critical species and their ecosystems while ensuring that human communities prosper. Nature's plight demands new approaches to conservation, in particular those that focus on species survival and ecosystem protection. Innovation is key for implementing real-time conservation action and training the next generation of conservation professionals here and abroad. A novel academic platform is needed to deliver effective conservation education, training and on-the-ground programs — linking universities, practitioners and institutions dedicated to conservation.

The Vision

The FIU Tropical Conservation Institute will address the critical issues driving wildlife to extinction and the decline in ecosystems, including habitat loss, wildlife trade, climate change, competition over water and land resources and disruptions to coastal marine ecology, in effect, developing tools to prevent the extinction of tropical species. Our global collaborators in academic institutions, NGOs, governments, and the private sector have long recognized FIU's leadership and international influence in the field of tropical conservation. FIU's degree programs in Biological Sciences and Earth and Environment have trained thousands of students for careers in environmental conservation around the globe.

As the primary partner, the RSCF, offers decades of experience solving critical conservation problems and a network of collaborating organizations in biodiversity hotspots. RSCF designs sustainable recovery programs for endangered flagship species in the wild, and works in collaboration with governments and other conservation/research organizations to protect critical habitats. RSCF also provides consulting and technical services to conservation teams, and forms educational, political and economic partnerships to expedite conservation projects.

Initially, the FIU Tropical Conservation Institute will work with some of the world's most threatened species in three bio-geographical areas — Latin America and the Caribbean (including South Florida), East Africa and the tropical Pacific.

The FIU Tropical Conservation Institute will save species by establishing:

- Partnerships and collaborations to deliver transformative conservation programs.
- A network of Conservation Fellows — extraordinary scientists who will enhance research opportunities, provide field training for students, and deliver innovative courses for undergraduate and graduate students.
- Enhanced student and faculty professional opportunities, offering access to specialized conservation facilities in South Florida and around the world.
- FIU as an international leader in applied conservation training for local and international students. New professional master's programs will attract conservation practitioners and decision makers from around the world.
- New collaborations between science and the humanities to increase public understanding of biodiversity loss

Feral parrot monitoring: During 2018, RSCF continued passive, non-invasive assessment and monitoring of a non-native, Palm Beach population of Green-cheeked Amazon parrots (*Amazona viridigenalis*). Globally endangered and endemic to Mexico, the species has persisted on Palm Beach since the 1940's. RSCF has monitored the population for 20+ years, under an agreement with the Breakers Hotel and special permitting from the Florida Fish and Wildlife Conservation Commission. Activities include nest-site monitoring, intra-cavity inspections and video

recording, banding/weighing of chicks, rehabilitation, public education and outreach (with The Breakers' education staff) and annual recruitment estimation.

Executive Summary for Florida Grasshopper Sparrow Captive-breeding program at RSCF

(Full final report, data, video and photographic files submitted to USFWS and available upon request):

Award: F12AP01156, Captive Breeding— Florida Grasshopper Sparrow

Grantee: Rare Species Conservatory Foundation, www.rarespecies.org

PI: Paul R. Reillo, Ph.D., Foundation President

RE: Final Progress Report Summary and Overview of Project Accomplishments

Period: 15 August 2012 – 31 March 2018, 5 modifications

Date: 29 June 2018

USFWS grant F12AP01156 to the Rare Species Conservatory Foundation (RSCF), which includes five modifications and spans nearly six years of research-and-development activity (8/15/12 – 3/31/18), was awarded to design and implement a captive-breeding program for the Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*; hereafter FGSP).

Initial, pilot research and husbandry methods for FGSP were informed by captive techniques developed for a migratory surrogate sub-species *Ammodramus savannarum pratensis*, maintained at the University of Maryland by Dr. Bernie Lohr. Early enclosures at RSCF were designed to minimize disease risks and biological contamination, provide safe, hurricane-proof breeding and management spaces, and enable flexible husbandry options to facilitate the evolution of a captive-breeding protocol. RSCF received its first group of seven FGSP in 2015, comprising 4-day-old nestlings collected from at-risk field nests and several independent, hatch-year birds.

During 2015, RSCF developed a hand-feeding formula and feeding regimen for nestling FGSP adapted from a generalized wildlife rehabilitator protocol for North American songbirds. This FGSP hand-feeding formula has since proven successful for rearing, through independence, all FGSP that are parent-reared for at least 4 days of age. RSCF's feeding protocol using this formula has also successfully reared 13 incubator-hatched nestlings from day one through independence.

The first FGSP captive breeding occurred at RSCF in May 2016 from parents that were hand-reared the previous year. Also in 2016, RSCF fine-tuned its artificial-incubation parameters for FGSP eggs, enabling 21 of 23 field-collected eggs to successfully hatch following devastating prairie floods early in the 2016 nesting season.

During 2016 and 2017, RSCF designed a series of prototype outdoor breeding and holding enclosures as wild-FGSP collection was anticipated to increase. By the start of the 2018 breeding season, a total of 14 landscaped, soft-screen-sided outdoor enclosures and 16 welded-wire indoor breeding spaces were available.

Breakthrough epizootiological discoveries soon followed the successful captive breeding, incubation and hand-rearing of both captive and wild FGSP. During 2016, significant post-fledging mortality in captive-bred birds, coupled with the discovery of multi-drug-resistant bacterial isolates from captive and wild nestlings, suggested previously unidentified immunological challenges facing the FGSP, and gave rise to new lines of investigation

regarding the sparrow's continuous decline in the wild. Drug-resistant gut bacteria were shown to be responsible for fatal septicemias and failure-to-thrive in young chicks that were incubator-hatched from field-collected eggs. (Surprisingly, no such drug-resistant bacteria were detected among wild, nestling Cape Sable Seaside Sparrows sampled concurrently.) In conjunction with avian veterinarians, RSCF first posited in 2016 that wild FGSP may be immuno-suppressed or otherwise immuno-challenged by bacterial contamination foreign to the natural prairie ecosystem (e.g., via contaminated runoff or sheet-water flow carrying fecal coliforms and/or agricultural or biosolid-derived wastes).

The first evidence of a pathogenic, extra-intestinal coccidian (EIC) occurred during 2016 among captive-bred, parent-reared chicks. What was initially suspected as *Atoxoplasmosis*, revealed from cross-reactivity to established *Atox* PCR primers, later became the focus of detailed histopathology, necropsy and bio-culture investigations conducted collaboratively with the University of Georgia Infectious Diseases Laboratory, under the direction of Dr. Branson Ritchie. Since 2016, iterations of refined PCR assays have identified both intestinal and extra-intestinal forms of one or more coccidian pathogens, at least one of which appears to be able to cross from gastro-intestinal to vascular tissue, where it may be sequestered for the life of the host.

Significant numbers of juvenile and adult mortalities were attributed to this EIC during 2016-2017. Coccidian oocysts were readily identified at high densities in fecal floats from affected animals, and post-mortem analyses confirmed extensive vascular and GI tissue damage in affected birds, all of which suffered acute deaths. ESB+ (water-soluble sulfaclozine-sodium), a long-established coccidia-stat, failed to reduce coccidian loads in both indoor and outdoor birds. However, in September 2017, RSCF successfully adapted a protocol for dosing Toltrazuril in finches for use in FGSP. Since initiating a protocol of Toltrazuril treatment dose (250 mg/gallon drinking water for two consecutive days, started whenever high oocyst loads are detected) and prophylactic dose (150 mg/gallon drinking water once per week, all birds), no EIC-related fatalities have occurred. However, PCR results from tissues of all FGSP mortalities continued to be positive for EIC, indicating that Toltrazuril can control, but not eradicate, this potentially lethal pathogen.

Improvements in preventative medicine, husbandry methods, enclosure design and nutrition have enabled captive survivorship to exceed wild-FGSP survivorship since 2015. Creative, transitional housing also has enabled indoor birds to be habituated to outdoor enclosures, and these techniques successfully transitioned hand-fed, recently weaned FGSP (from both field-collected and captive broods) to outdoor enclosures without incident. This process has identified head-starting as an effective means to recruit field-collected nestlings into the captive population and to potentially augment wild populations via release of hand-reared youngsters onto the prairie during the first post-hatch year.

Egg-laying rates, egg fertility, proper parental care and captive-breeding yield were variable among all breeding pairs, and reproductive success was lowest among unproven pairs and recently introduced pairs that may not have been sufficiently established. Male aggression toward females, agonistic male behavior toward youngsters and males discarding chicks from nests periodically interrupted successful breeding and necessitated removing some males from breeding enclosures so that females could attend to broods. Some females were excellent care-givers while others incubated and hatched their eggs, but did not feed chicks. Lethal egg-binding occurred in two females that had successfully raised clutches previously. Captive mortality was higher in females than males among birds less than three years of age, attributed to repeated reproductive stresses and male aggression exacerbating underlying health issues (e.g., EIC).. We theorize that mate selection is an important component of successful reproduction in FGSP.

Older males (4+ years) exhibited higher over-wintering and spring mortality, with post-mortem COD consistent with old age. Leg-band tangling in vegetation occurred three times, and one male death was attributed to snaring. Several predation events (corn snake, rat) prompted retrofitting all enclosures with additional security measures (e.g., wire mesh and additional electric fencing skirting all outdoor enclosures; re-meshing of all entry points to indoor enclosures).

Remarkably, a 2018 field-collected, adult, male FGSP that escaped through a rat-chewed hole in an outdoor enclosure in May 2018 returned to its territory on the prairie in June 2018 after traveling >100 miles. Such homing ability had never been documented in FGSP previously.

Cube-video recordings of all captive FGSP have revealed courtship, mating, nest-building, parental-care and aggression behaviors infrequently documented in the field. The archive of video footage represents an important repository of FGSP behaviors and has informed captive-management decisions and husbandry practices.

Over the span of six years, cumulative findings and discoveries have led to many husbandry and management refinements and a functional system for rearing and maintaining healthy FGSP. The five modifications of the original FWS grant represent the formative phase of captive breeding and management, which is now enabling a vision of sustainable recovery *in situ*. Recent health information is illuminating field-recovery limitations and options. Disease research—especially isolating, culturing and sequencing pathogens—has become a priority in order to devise safe methods for returning healthy, captive-bred and head-started sparrows to the prairie. Currently, captive efforts are being directed toward sustainability, both in terms of maintaining a safety-net, captive population as a hedge against extinction, and providing a continuous source of young, healthy sparrows with which to fuel a wild-population rebound.

II. 2018 Conservation and Research Program Field Projects

Dominica program:

Over the past half-century, Dominica's endemic Amazon parrots, the Sisserou and Jaco (*Amazona imperialis* and *A. arausiaca*, respectively), have proven to be effective conservation flagships for Dominica's diverse oceanic rainforest ecosystem. Continuous parrot-conservation and public-education efforts focusing on the Sisserou, Dominica's national bird and emblem, have achieved a broad base of public support and awareness, along with significant protection of Sisserou habitat, including the oldest forest stands on the island. Both parrot species' secretive natures and Dominica's difficult terrain often have impeded quantitative research into the parrots' ecologies, even as a comprehensive parrot-conservation program has evolved and yielded tangible results. Current field-research activities continue to quantify the parrots' distribution and abundance using GPS/GIS survey methods and direct counts. Research teams use new camera technologies to monitor and document reproduction and parental care, and are quantifying the botanical inventories of critical parrot nesting and foraging habitats. The Dominica parrot-conservation program has stimulated novel research and enhanced protected-area policies island-wide, ensuring a future for the Nature Island's vast montane forests and its winged ambassadors.

Since 1997, RSCF and Dominica's government have partnered to research and conserve Dominica's parrots. The program is multifaceted, and includes:

- extending formal, legal protection to all forests surrounding Morne Diablotin, nesting stronghold for the Sisserou, and expanding protected areas to augment the Morne Diablotin and Morne Trois Pitons National Parks
- developing management and conservation strategies for the Jaco and Sisserou with Dominica's Forestry, Wildlife and Parks Division, including new protected-areas policies (Morne Diablotin National Park and recent annexations, 1999-2005) and wildlife legislation (Wildlife Act, amended 2003-2007 and currently under Cabinet review for inclusion in a new National Parks system)
- coordinating support for ongoing research, staff capacity building and education programs with public zoological facilities, other non-profit organizations, UNDP/UNEP and local and international NGO's. Efforts include field training, delivering new research technologies and equipment, infrastructure enhancements (e.g., overhauling the Parrot Conservation and Research Centre), field vehicles, and funding outreach programs (e.g., continuous PSA's, annual Caribbean Endemic Bird Festival, trail and road signage, publications).

The broad-based conservation program has produced many significant results, including formative documentation of reproduction and bi-parental care in the Jaco and Sisserou,, delineation of key parrot habitat, and the compilation of area-specific biological inventories. Most significantly, on January 21, 2000, culminating a two-year, \$1.086 million campaign spearheaded by RSCF and the Dominican government, Dominica formally declared the new Morne Diablotin National Park, encompassing ~8500 acres (3443 ha) of pristine rainforest and the principal nesting area for the Sisserou. Since then, RSCF funds have enabled seven additional, adjacent, private land parcels to be annexed into the park, and the Morne Diablotin National Park Visitors Centre and Forestry field station to be completed and serve at a vital management outpost for the park.

Hurricane Maria-- Catastrophic Hurricane Maria impacted all of Dominica as a Category 5 hurricane in September 2017 as what is now regarded as the strongest hurricane to strike the island in its recorded history. RSCF immediately provided emergency assistance to the Forestry, Wildlife and Parks Division with shipments of equipment and supplies (chain/pole saws, brushcutters, forestry tools and equipment, personnel gear tarps, materials for rebuilding aviaries and physical infrastructure, etc.) and coordinated with the Loro Parque Fundacion in Tenerife, Spain to acquire a new 4WD, diesel, double-cab Forestry truck since all of Forestry's vehicles were destroyed, looted or damaged during the hurricane. RSCF also mobilized funds to commence post-hurricane assessment of parrot populations. Both parrot species survived Maria, and long-term monitoring, concerted conservation actions, community outreach and Forestry staff support measures will be required for both species to recover in the wild, as they did following Hurricane David in 1979. All aspects of Dominica's economy, energy and water-supply systems, physical, social and political infrastructures were significantly impacted, and the country must sustain a very long recovery process to fully rebuild.

Reillo manuscript, approved for publication in Hemispheres Magazine, addressing Dominica's parrot-conservation program post-Maria:

Saving Dominica's Parrots in a Changed World

Dominica, the resplendent, mountainous Nature Island of the Caribbean, was forever changed on 18 September 2017 by Hurricane Maria, striking the nation as a Category 5 cyclone. Having lived in south Florida for nearly 30 years, and working closely with Dominica's Forestry, Wildlife and Parks Division for the past 20, I can personally attest to hurricanes' fury—but also to nature's resilience afterward. Dominica's post-Maria story has been eclipsed by the media's intense focus on Puerto Rico and her many tragedies. The Nature Island's saga is however noteworthy because for decades Dominica was considered a Caribbean model for home-grown wildlife conservation and sustainability. Dominica's iconic, endemic national bird, the Imperial Parrot a.k.a. *Sisserou* (*Amazona imperialis*), largest and oldest of the Amazon parrots, has long been a conservation flagship for biodiversity protection. After Maria, many conservationists feared the shy, beautiful Sisserou might be gone for good. Amazingly, despite Maria's wrath, this majestic parrot survived the storm along with its more common endemic congener, the Jaco parrot (*A. arausiaca*). A year after Maria, Dominica is once again green and lush, but the parrots' small world has been irrevocably changed. Suddenly Dominica has become a poster child for climate-change impacts. Maria will not be her last hurricane, and Dominica's critical species now face increasingly uncertain futures.

Nature's previous, major assault on the island was from Hurricane David in 1979, just a year after Dominica achieved independence from England. That storm, which hit as a Category 4, reduced the population of this iconic bird to perhaps 50 individuals, prompting international NGOs and the Dominican government to initiate recovery and protection measures for the parrot and its oceanic rainforest habitat. Dominica's parrots survived Maria thanks to progressive, continuous conservation investment made by Dominica's Forestry, Wildlife and Parks Division (FWD) and committed conservation-NGO partners over the past 30 years. National pride and FWD's governing authority over all wildlife matters, as specified in Dominica's Wildlife Act and its role as Scientific Authority for the international Convention on International Trade in Endangered Species of Wild Fauna and Flora (also known as CITES), have largely protected the parrots from hunting and exploitation for the pet trade. This trade has sadly marginalized many parrot-conservation efforts in the Caribbean and American tropics.

I was introduced to Dominica in 1996, and our organization, the Rare Species Conservatory Foundation (RSCF, www.rare-species.org), initiated The Wildlife Conservation Partnership with FWD that same year. Our collective goal was to tangibly benefit Dominica's endangered parrots, and other endemic species, with on-island research, habitat protection, material and technical support to FWD, educational outreach (e.g., the annual Caribbean Endemic Birds Festival) and FWD capacity building. Over the approximately past 20 years, and millions of dollars later, the program has achieved numerous conservation milestones, highlighted by the creation of the Morne Diablotin National Park, the Sisserou's stronghold. Virtually everything we know about the parrots' ecologies, behavior, reproduction and recovery potential has been revealed by this joint program.

Maria caused catastrophic damage to Dominica's infrastructure and forests and significant loss of human life. It's the strongest cyclone to have hit the island in Dominica's recorded history. Yet, thanks to its healthy, pre-hurricane-Maria population size (>1200 parrot individuals), the Jaco parrot is now sighted throughout Dominica, including villages and settlements, foraging on natural and agricultural foodstuffs wherever they can be found. This species is social and gregarious, and with a clutch size of 2-3 and an early age of sexual maturity (~5 years), exhibits a high reproductive rate. Even after heavy losses from David, the Jaco rebounded steadily, and we are witnessing a similar trend following Maria. Like the Sisserou, the Jaco is fully protected by Dominican law and is listed as CITES Appendix I.

The secretive and cryptic Sisserou likely numbered ~350-450 birds prior to Maria. Over the past year it has been confirmed with occasional sightings within the Northern and Central Forest Reserves, and in patches of forest habitat within and adjacent to the Morne Trois Pitons and Morne Diablotin National Parks. FWD's parrot team, championed by First Name Last Name, a forester recruited into Dominica's first parrot-research project in 1981, has sighted multiple Sisserous, with others revealed by their haunting vocalizations. This large parrot reaches sexual maturity at ~10 years and reproduces slowly—typically fledging one chick every other year. Even with Dominica's strong forest-protection ethic and comprehensive post-David conservation measures, nearly 25 years were required for the Sisserou to reestablish its pre-David range. While most of Dominica's primary parrot habitat is protected, much of the mature forest is now devastated. The Sisserou's recovery post-Maria will be markedly slower than the Jaco's and will require generations.

Today Dominica is a fragile country and its wildlife is vulnerable to exploitation. Immediately post-Maria, surviving parrots were weak and food-limited, foraging in exposed areas for anything they could find to eat. While life is now better for the parrot survivors, their recovery hinges on habitat protection and reducing threats for the foreseeable future.

The world of parrot conservation in Dominica was recently shaken by a major controversy. In March 2018, 12 of 18 parrots kept at Dominica's government-run aviary—including two Sisserous—were secretly exported to a private parrot-breeding facility in Germany known as Association for the Conservation of Threatened Parrots (ACTP), contradicting decades of proven, scientifically sound, on-island parrot-conservation measures. Eleven of the birds were being rehabilitated for release back to the forest. Disguised as a need to "rescue" the parrots from a post-Maria Dominica, this export was arguably as damaging to these parrots' futures as the hurricane itself.

Given the Sisserou's biology, initiating a captive-breeding program under any conservation pretext would require collecting most or all of the wild population. Such an aggressive action is widely considered unethical, scientifically indefensible and unnecessary—a view expressed in two, published sign-on letters by many international conservation NGOs and credentialed scientists following the birds' export to Germany. Besides, two Sisserous, one of which is post-reproductive, are woefully insufficient to launch any breeding effort. Dominica's parrots have survived hurricanes for millennia, and wild populations have rebounded thanks to broad-based, on-island conservation measures. It bears emphasizing that all of the captive birds on Dominica survived Maria.

After a seven-month investigation *The Guardian* revealed that, in addition to glaring financial, governance and scientific transparency issues, ACTP's principal officers are convicted criminals, with crimes ranging from kidnapping and extortion to illegal wildlife trade (see web citations below):

<https://www.theguardian.com/environment/2018/dec/11/legitimate-zoo-obscure-german-group-endangered-parrots-actp>

<https://www.theguardian.com/environment/2018/dec/11/australia-endangered-parrots-german-zoo-actp>

As investigations into ACTP's activities and parrot transfers continue, an international petition to demand corrective actions by Germany's CITES authority is underway, with over 55,000 signatures.

https://www.thepetitionsite.com/de-de/takeaction/428/911/630/?taf_id=60660574&cid=fb_na&fbclid=IwAR1VZR1L5hXg7oEsfCATSrA_rPLoS6Bmo2k1M9mHmxRag5YJ4JZC8AWbEOE

When safety-net captive populations for Caribbean Amazon parrots are warranted, they can and should be accomplished in their natural ecosystems within a network of officially protected areas, as has been proven on Puerto Rico with the U.S. Fish and Wildlife Service's recovery program for *A. vittata*. These efforts were initiated in parallel with Dominica's FWD's program over 30 years ago. In contrast, no *ex situ* captive population of any Caribbean parrot species has successfully recovered a native, wild-population. The term *ex situ* refers to the conservation of individuals of the target species in zoos, aviaries, or research facilities. However, the reality is that *ex situ* captive populations of Caribbean parrot species have long been associated with private collectors and wildlife trade and they do not provide for the sustainable preservation of these birds in their West Indian habitats.

My view is that real parrot conservation on Dominica starts with recognizing the island's amazing conservation successful history following the devastating effects of hurricane David, the opportunities post-Maria, and the many holistic, practical and landscape-level protective measures that enable parrots to recover naturally without being exported for breeding, captured or otherwise manipulated. Responsible NGOs should unconditionally support the country's conservation needs, including enhancing FWD's professional capacity and physical infrastructure. Exporting wild birds to distant, foreign aviaries under a pretense of "saving species" paralyzes ongoing conservation successes that take generations to achieve.

Resources and funds used to create *ex situ* parrot populations can establish sustainable captive populations for bird reintroduction into nature programs-- again, as needed-- that bolster pride and retain species in the country of origin where they belong. The Parrot Conservation and Research Centre, established in 1999 in Dominica's Botanical Gardens, has long served as a protected home for non-releasable parrots and a rehabilitation center for birds to be returned to the forest.

Dominica's decades-experienced parrot team is now conducting GPS-based surveys to quantify parrots across challenging terrain strewn with forest debris. Much outside support is needed to ensure long-term wildlife and habitat health. As a resilient and proud nation, Dominica will forge a path of uncharted recovery as new and progressive energy, communications, water and transportation systems are developed. Today, Dominica's government is launching a unprecedented campaign to make the island the first climate-change-resilient country—a tall order for a speck of an island in the Atlantic hurricane belt. Similarly, The Nature Island's biodiversity rebound will be documented as never before, and her wildlife must be given the fullest opportunity to recover on its own and within Dominica's sovereign borders.

Also see related position papers at www.rarespecies.org and www.birdscaribbean.org.

Outreach, education: During 2018, in addition to assisting the parrot field conservation program, RSCF provided operational funding for the Parrot Conservation and Research Centre at the Botanical Gardens and continued its longstanding commitment to on-island environmental awareness efforts by sponsoring print and radio Public Service Announcements and special programming (e.g. Voice of Life Radio, DBS radio and television as directed by the Forestry, Wildlife and Parks Division) and the 2018 Caribbean Endemic Birds Festival. In addition, RSCF again provided funds for senior Forestry wildlife staff to conduct post-Maria population surveys of the Sisserou parrot. These surveys, which have become essential to estimate wildlife population recovery, replicate the GPS/GIS survey methodology co-developed by RSCF and Dominica's Forestry Division in 2001, and are used to estimate parrot population size and distribution by calculating densities (#birds/unit area) across vast, montane forest habitat.

Mobile Wildlife Laboratory: During 2011, RSCF shipped a self-contained RV from Florida and equipped it to become a stand-alone, mobile wildlife laboratory, housed at the Parrot Conservation and Research Centre in Roseau. The laboratory sleeps six and provides a flexible, environmentally controlled facility for researchers and Forestry staff working on special wildlife cases (e.g., rearing/rehabilitation of wildlife, specialized veterinary care, extended stays in the field). From 2014-2017, additional veterinary supplies, equipment and pharmaceuticals were added to the facility—most importantly an isoflurane anesthesia machine. The anesthesia machine, the only one of its kind on the island, provides safe, reversible anesthesia for avian examinations and procedures. This mobile lab, along with the PCRC, are being reevaluated as post-Maria reconstruction in the Botanical Gardens commences. Future use of these facilities will be determined as all of the PCRC is rebuilt and refurbished.

Aviary rebuilding and expansion: RSCF has assisted Forestry and worked with partnering organizations and NGOs to sustain the PCRC since 1997. The large-flight aviary constructed in 2008 was destroyed by Hurricane Maria in 2017, but a replacement aviary was provided to Forestry for construction in 2018. Important aspects of the aviary, including enclosures, food preparation, isolation, rehabilitation and treatment areas, personnel support and equipment storage, are being addressed in light of the secretive exportation of 11 aviary parrots to Germany in 2018 and Forestry's currently uncertain wildlife-conservation mandate. Importantly, all aviary birds survived Maria unharmed, and the resources and capacity to maintain all non-releasable parrots exist on Dominica. There is no scientific or conservation justification for exporting wildlife to *ex situ* facilities, as has been suggested by foreign, non-credentialed parties. The Forestry Division's legislated mandate, as wildlife authority and CITES Scientific Authority, assigns responsibility for all wildlife matters to the Division.

Caribbean Endemic Birds Festival: Since its inception in 2002, RSCF has sponsored the Forestry, Wildlife and Parks Division's participation in the CEBF, the broadest annual environmental outreach program for children in the Lesser Antilles (>4,000 children in 2016). The program runs for one month in May, and enables children from across the island to celebrate the richness of Dominica's bird life, totaling 228 species. The program is a collective effort between Forestry, RSCF, local sponsors and BirdsCaribbean, the latter of which produces the *Journal of Caribbean Ornithology*. Each year, Forestry staff voluntarily lead presentations, tours, and media releases on the ecology and conservation of Dominica's avifauna, engaging all radio, television and print media outlets island-wide. Experienced Foresters accompany school groups on birding expeditions, seabird-watches and rainforest tours, and give illustrated presentations at the National Botanic Gardens—all on their own time. The Division also hosts a *BirdArt* contest and exhibition (300+ entries last year), for children from pre-K to Seniors (IV Form). CEBF has grown each year since its inception. RSCF's annual contribution supports transportation, supplies for educational materials, field binoculars for students, field consumables, the *BirdArt* and *Radio Quiz* programs, and press-release materials.

Professional development and training for Forestry staff: Upon request from Forestry, RSCF provides sponsorship for key personnel to attend regional conservation meetings and workshops, and to engage at RSCF's Conservatory for joint-program development. RSCF evacuated Forest Officer Stephen Durand from Santo Domingo, DR to RSCF headquarters following his stranding from Hurricane Maria and provided travel and logistics support for him to return home as soon as possible. During his impromptu stay at RSCF, Durand and Reillo identified emergency-relief needs and initiated a rapid-response strategy, even as all communications and Dominica's ports were closed for weeks. This enabled critical supplies to flow to Forestry rapidly and well into 2018.

Establishing agro-processing facility in village of Dublanc. This is an extension of the Morne Diablotin National Park/U.N. Cluster World Heritage Site program initiated by RSCF in 2000. RSCF engaged the United Nations Development Programme (UNDP) to solicit FAVACA (Florida volunteer corps.) to provide two citrus production and marketing specialists to assess citrus management in the Morne Diablotin area. The report, filed in 2006, indicates adequate acreage, production and suitable fruit quality for small-scale processing. The initiative aims to provide livelihood development for farmers and agricultural stakeholders adjacent to Morne Diablotin National Park who suffer significant crop losses to parrots and other protected wildlife. Current citrus-crop utilization is less than 40% in Dominica, largely due to on-the-tree fruit storage, and local, fresh-fruit market sales only. Micro-processing enables farmers to explore local fresh juice and extract-product markets and utilize a greater percentage of fruit set each year, thereby reducing wildlife-human conflicts. The Jaco parrot (*Amazona arausiaca*) exploits agriculture on Dominica, and while fully protected under law, the species is no longer considered imminently threatened. As opportunists, Jaco parrots supplement their food intake with readily available citrus (primarily to extract seeds), but do not rely on agriculture for adequate nutrition. The Sisserou parrot (*A. imperialis*) does not forage in agricultural areas. Smaller birds, such as bananaquits, tremblers and thrashers, also consume agriculture, along with agoutis, maniocou (opossum) and rats.

The Western Farmers Citrus Association is incorporated and fully registered as a Community Based Organization (NGO), and serves as the local consortium for agricultural stakeholders in the Morne Diablotin area. The Association has been recognized by both Dominica's Ministry of Agriculture and the Environment and UNDP as the appropriate entity to receive duty-free agricultural concessions consigned by NGO's to Government. During 2008, RSCF delivered two state-of-the-art fruit processors manufactured in Florida by FMC, the world's largest manufacturer of processing equipment (www.fmctechnologies.com):

- 1 Fresh 'n Squeeze Multi-fruit Juicer, 240VAC, with service parts
- 1 Produce Plus Juicer (for mangos, pineapple, guava, etc.)

The shipment also included spare and maintenance parts for the machines and a fully purchased, 20' shipping container for storage, with all items consigned to the Ministry of Agriculture and the Environment as duty-free. During 2012, the Ministry officially commissioned operations of the completed micro-processing facility to the Association, which began commercial processing under its own label in early 2013. The facility is located in Dublanc, a small, coastal village situated at the base of Morne Diablotin on Dominica's west coast, and has the potential to serve growers within a 10-mile radius. During 2016-2017, the facility processed and distributed juices under its "Jaco" label. Processing includes juices and extracts of all types, with waste material suitable for industrial uses (e.g., organic solvents), organic compost and animal feeds. Post-Maria, agro-processing is more important than ever. This facility is intended as a model to be replicated across Dominica's agricultural communities to enhance local crop management, community cooperation and juicing efficiency, while simultaneously reducing wildlife depredation of tree-stored fruits.

RSCF Research Associate Activities:

Crocodilian research and conservation by Research Associate Matt Shirley—Shirley is currently a post-doctoral researcher and RSCF research associate based at Florida International University and Cote d'Ivoire, developing conservation recovery strategies for the West African slender-snouted crocodile with Abidjan National Zoo and the Ivorian national parks service. A full project description, including comprehensive budget, objectives, timelines and partner responsibilities, is available from RSCF. Shirley's work has expanded to include collaboration with local students and environmental stewards, and during 2018 has expanded to include pangolin research and comprehensive measures to thwart illegal trade. Below is a summary of the scope of work for Shirley's crocodile program:

This project aims to reverse the extinction trajectory of Africa's most Critically Endangered crocodilian (the West African slender-snouted crocodile *Mecistops cataphractus*) through captive breeding and reintroduction in the Upper Guinea forest region. The slender-snouted crocodile is a evolutionarily and ecologically unique crocodilian species endemic to the forested wetlands of the Upper Guinea and Congo biomes. Recent research has shown that the populations in these two regions have been isolated for > 7.5 million years and are readily distinguished morphologically and genetically. As a result, they are currently being split into two unique species. Crocodile surveys in West Africa over the past decade have detected < 50 individual *Mecistops*, of which only three were adults. Habitat loss and historic hunting have threatened this species and small, fragmented populations now impede recovery. To combat this, we are reviving captive breeding efforts for this species at the Abidjan National Zoo, evaluating reintroduction sites for ecological and socio-economic suitability, and reintroducing captive bred crocodiles for population reinforcement or revival in the case of local extinctions. By coordinating activities with national parks and protected areas development the project will be contributing to the burgeoning wildlife conservation efforts in Cote d'Ivoire. The long-term impacts will be further expanded through extensive capacity building with local stakeholders, national parks staff, students, community members and wildlife agents. This is the first ever project in Africa specifically designed to reinforce depleted and revive locally extinct crocodile populations.

Key Objectives

- Implement reintroduction of captive *M. cataphractus* into the wild for the purpose of population augmentation and/or re-establishment of locally extinct populations. By establishing a biological and social basis for crocodile reintroduction our project is poised to make significant headway towards the conservation and future sustainability of this emblematic denizen of the Upper Guinea forests.
- Develop the individual and institutional capacity to manage and monitor crocodile populations in West Africa. We will work with individuals identified by our in country collaborating organizations to provide extensive species-specific monitoring training. These individuals will participate in all survey and village-based efforts, as well as be integral in planning the crocodile releases and post-release monitoring. By including local personnel at all levels of this work, we will empower Ivoirians to work on traditionally ignored species of conservation concern to meet the mutual goals of wildlife conservation and local community support.
- Re-establish a permanent breeding colony of slender-snouted crocodiles at the Abidjan National Zoo. This will not only involve selection of the crocodile founding colony, but rehabilitation of the facilities and training of staff to ensure that the colony is successful in the long-term. Once completed, this will be the first example of captive breeding for crocodile conservation in Africa and can be used as a model and training program for countries throughout the region looking to improve the conservation utility of their zoological park resources.

Additional 2017-2018 activities:

In Cote d'Ivoire, nationwide surveys were continued with work in two national parks, one community reserve, and four classified forests. These surveys will further facilitate the development of distribution and habitat suitability models for the slender-snouted crocodile, as well as inform reintroduction and conservation planning. The slender-snouted crocodile radio telemetry project advanced, including successful tagging of 17 individuals and four months of follow days in Tai National Park, and two new research programs on use of eDNA and drones as monitoring tools for critically endangered crocodiles were initiated. This work was supported by funds from the Future for Nature Foundation, CrocFest, Minnesota Zoo and Mohamed bin Zayed Species Conservation Fund through the purchase of

field supplies and on-ground costs for fuel, personnel, travel, and food/lodging. Finally, a 10-day training workshop was held for national parks partners on crocodiles, manatees, and turtle/tortoise biology, research, and conservation planning supported by the Oklahoma Zoo. In Benin, surveys for slender-snouted crocodiles were conducted in two different protected areas, and capacity-building of three Ghanaian scientists working on crocodile research and conservation was supported in situ in Ghana with support of funds from Future for Nature Foundation and CrocFest through the purchase of field supplies and on-ground costs for fuel, personnel, travel, and food/lodging

e-DNA Project:

Employing Environmental (e)DNA to Rapidly Assess Critically Endangered Crocodilians and Pygmy Hippos in West African Protected Areas

The principal organization applying for MBZ funding is University College Dublin; however, this project is a collaboration with the Rare Species Conservatory Foundation. Following are details for both organizations; University College Dublin (UCD), Earth Institute: UCD (est.1854) Earth Institute is Ireland's largest research institute dedicated to earth and environmental sciences and aims to identify, clarify, and find solutions to the most pressing global environmental problems facing us today. Work on these challenges is underpinned by expertise in a number of key disciplines such as: Water, Climate, Ecology and Evolution, and Environmental Policy & Behaviour. Research is facilitated and supported by the latest laboratory and field equipment, new purpose-built laboratories in the UCD Earth Institute facilities on campus and a team of research support staff.

UCD's research group (<http://www.ucd.ie/area52/>) is primarily focused on aquatic organisms- conservation, ecological and population genetics, as well as evolutionary biology.

Key personnel / titles / qualifications / email address:

Dr. Fiona Bracken Co-PI, Postdoctoral Research Fellow, fiona.bracken@ucd.ie

Dr. Matthew H. Shirley, Director of *Project Mecistops*

Chair of West and Central Africa Region for the IUCN/SSC Crocodile Specialist Group, mshirley@rarespecies.org

Dr. Allassane Ouattara, Director, Environmental & Aquatic Biology Lab, Nangui-Abrégoua University (Abidjan)
allassane_ouattara@hotmail.com

Project Description:

Cote d'Ivoire was chosen as the focal country for this project for two reasons: Firstly, the protected areas here are the last known strongholds for the West African slender-snouted crocodile and contain important populations of pygmy hippo. Because of this, they provide the only known areas we can be sure of having positive control sites for the presence of both species – notably in Taï National Park. Secondly, Cote d'Ivoire is currently the focal country for the crocodile conservation initiative "*Project Mecistops*," run by the Rare Species Conservatory Foundation. *Project Mecistops* has signed collaborative agreements with the Ivorian national parks authority, forest reserve management authority, the wildlife authority, and a local university, as well as all the necessary research permits. In addition, *Project Mecistops* has significant infrastructure in place, including dedicated vehicles, boats, other field supplies, as well as local students. This guarantee of sampling and project infrastructure would be lacking in other countries. The project described here is a pilot initiative aimed at developing a rapid census technique for these Critically Endangered and Endangered species. Once it is shown effective here, we aim to carry out the same work in Liberia, Sierra Leone, Guinea, and Ghana.

Conservation status of the target species and the importance of the associated habitat:

The West African slender-snouted crocodile is listed as Critically Endangered on the Red List on the basis that crocodile surveys throughout West Africa from 2005 - 2012 encountered only 49 individuals and only three adults. A precautionary estimate suggests that the number of mature individuals is <1,000. Continuing decline of >80% over two generations is predicted without intervention. The pygmy hippopotamus is listed as Endangered (EN) on the Red List where available evidence indicates low densities, particularly in key sites like Sapo (Liberia) and Tai (Cote d'Ivoire) National Parks. A precautionary estimate suggests that the number of mature individuals is <2,500. Continuing decline of around 20% over two generations is predicted. The major threats facing these emblematic forested wetland species are their already small population sizes brought about by historic large-scale habitat loss from commercial plantations of cacao and oil palm, shifting cultivation, mining and logging, hunting for bushmeat, conflict with artisanal fisheries, and lack of law enforcement – resulting in highly fragmented populations. The most significant impediment to conservation action is lack of real-time occupancy data, where traditional methods (e.g., camera trapping and spotlight surveys) are too time consuming and costly. Development of alternative survey techniques is imperative.

Project objectives:

1. a) Develop primers and probes from published mitogenomes specific to the amplification of short mtDNA sequences (COI and/or cytochrome b regions) for the target species; b) optimize an assay for species detection using real-time qPCR which will initially be tested using DNA and environmental (e)DNA from captive animals and a known positive wild control site (Hana River, Taï National Park). 2. a) Assess the distribution and abundance of these species throughout 25 PAs in Cote d'Ivoire using eDNA; b) compare to data obtained from both on-going ecological surveys and local knowledge (e.g., focus-group interviews). 3. Alongside evaluations of cost for method implementation, utilize quantitative models to evaluate the efficiency and efficacy of eDNA as a tool to detect/monitor wild populations. This study will be the first application of eDNA in West Africa, illustrating a novel application of eDNA to endangered species management in the African conservation context. It will also be the first use of eDNA for the detection of any crocodilian globally and pygmy hippo. Therefore, we will validate the use of eDNA in these environmental and conservation contexts whilst providing critical data to enhance management strategies for these endangered species and ecosystems.

This project is facilitating and facilitated by Project Mecistops, which aims to ensure the survival and sustainability of the West African slender-snouted crocodile in Côte d'Ivoire and the West African region. Project Mecistops breeds crocodiles in captivity for reintroduction and strengthens Ivorian, and regional, conservation authority capacity to conserve and manage crocodiles over the long term. The pygmy hippo and the slender-snouted crocodile largely share the same habitat and distribution and adding it as the second focal species of Project Mecistops integrates with the current and long-term project strategy. The proposed project using eDNA to rapidly identify these species' actual distributions critically underpins the success of all future Project Mecistops activities. Project Mecistops was initiated in 2013 and is in partnership with the Abidjan National Zoo (ZNA), OIPR (national parks and wildlife reserves), SODEFOR (forest reserves), DFC (wildlife authority), and the Université de Nangui-Abrégou (UNA). These partnerships underscore the commitment of the Ivorian government to conservation of this Critically Endangered crocodile and to developing its capacity to more generally manage aquatic ecosystems and wildlife. With the Ministère des Eaux et Forêts we aim to develop the ZNA into West Africa's only endangered species captive breeding facility – an original objective of the zoo that but was impeded by civil strife in the early 21st century. The current focal species is the slender-snouted crocodile – we have a breeding colony of 34 adults and an 80% survival rate of captive-bred offspring. The ZNA currently has 1 pygmy hippo, but previously had 6 breeding pairs. We hope to use surplus breeding individuals from the European studbook to re-establish this colony, also for reintroduction. These species breeding programs are in close collaboration with the San Diego Zoo, with whom we facilitate infrastructure rehabilitation and keeper capacity-building. With OIPR, SODEFOR, and UNA we survey protected and non-protected areas to assess the biological and social feasibility for reintroductions. Surveys are coupled with training of students and national parks staff. UNA's wetlands and aquatic resources faculty helps ensure our training efforts with government stakeholders include fisheries and environmental monitoring, in addition

to the charismatic megafauna. Our effort to date allowed us to identify strategic actions over the next 3 – 5 years, including infrastructural development at the institutional level for protection, management and monitoring of aquatic wildlife and protecting these species in the agroforestry matrix by working with the cacao and oil-palm industry.

Activities:

Development of primers and real-time qPCR assay to detect critically endangered species in West Africa using eDNA. Enable rapid and cost effective species detection and monitoring. Rapidly assess the nation-wide distribution of these critically endangered species using eDNA. Allowing us to decide where on-going targeted conservation actions should be implemented. Assess the relative cost and time and results efficacy of eDNA as a critically endangered species monitoring tool in West Africa. Provide proof of concept needed for organizations to employ a similar strategy with other species

Period of activity: 01/02/2017 - 01/02/2018

Use of Funds:

Funding will be spent on developing primers and probes from published mitogenomes specific to the amplification of short mtDNA sequences for the target species. Once this is done, an assay will be optimized for species detection using real-time qPCR which will initially be tested using DNA from captive animals and a known positive control site (Hana River, Taï National Park). We will then assess the distribution and abundance of the target species by taking eDNA samples (water) throughout 25 Protected areas (PAs) in Cote d'Ivoire. This data will then be compared to that obtained from both on-going ecological surveys and local knowledge (focus-group interviews). Alongside evaluations of cost for method implementation, utilize quantitative models to evaluate the efficiency and efficacy of eDNA as a tool to monitor these species. This study will not only outline novel applications of eDNA in conservation management (rapidly assessing critically endangered species distribution), but will also be the first application of eDNA in West Africa and the first detection of pygmy hippo or of any crocodilian globally. This funding will validate the use of eDNA in these environmental and conservation contexts whilst providing critical data to enhance the management these endangered species.

Lemur conservation and community programs in northern Madagascar—Erik Patel, Ph.D., Lemur Conservation Foundation and Research Associate, FIU Tropical Conservation Institute:

Description of Lemur Conservation Foundation's *In-situ* Conservation Programs in Northeastern Madagascar

A variety of community conservation and research programs have been initiated by Lemur Conservation Foundation (LCF) in the SAVA region of northeastern Madagascar. These programs are briefly summarized on LCF's website: <http://www.lemurreserve.org/madagascar/>. The goal of these projects is to support human livelihoods to reduce dependence on forest resources while improving biodiversity conservation through lemur research, forest monitoring, and ecotourism infrastructure. LCF collaborates with the national park service and local non-governmental organizations in forest bordering communities near two protected areas: Anjanaharibe-Sud Special Reserve (ASSR) and Marojejy National Park. *In-situ* programs reflect LCF's mission statement. LCF "is dedicated to the preservation and conservation of the primates of Madagascar through managed breeding, scientific research, education, and art." Importantly, LCF's conservation programs in Madagascar are inspired by and consistent with the recent IUCN Lemur Action Plan (2013), which is a 185-page document outlining a strategy for the conservation of the lemurs of Madagascar: <https://portals.iucn.org/library/sites/library/files/documents/2013-020.pdf>. [This document has been summarized and published as short paper in Science \(Schwitzer et al., 2014\). The article points out that lemurs are now one of the most endangered groups of animals in the world \(according to current](#)

[IUCN categories](#)) and emphasizes three programs which are most critical for their conservation: 1) Ecotourism, 2) Long-term research sites, 3) Community management of forests and local guide associations.

Since 2015, LCF maintains an office in Sambava, Madagascar which is managed by several full-time staff members, and over a dozen local residents who are hired on a project-specific basis. Currently, LCF support ten major projects, which are described below:

1) Population, Health, and Environment (PHE). An influential article about Madagascar by one of the leading conservation biologists pointed out that “Human population growth is one of the primary drivers of biodiversity loss.” ([Harris et al., 2012](#)). Indeed, the United Nations predicts population doubling in Madagascar by 2050. LCF collaborates with nurses from [Marie Stopes](#) to increase access to voluntary family planning services in underserved remote villages near ASSR and Marojejy. LCF’s role is to facilitate the visits by the nurses by coordinating with local health workers in the village and providing transportation and salary to the nurses.

2) Ecotourism. Tourism is an important way in which local residents can receive income by protecting lemurs. Lemurs are actually much easier to see in the wild than many other wild primates, as they habituate quickly to humans. At key sites, tourists frequently hire porters, cooks, and guides from small villages near the reserves. The project has established a new tourist and research campsite inside ASSR, called [Camp Indri](#). The site now contains considerable basic infrastructure including running water, dining pavilion, toilet and shower buildings, covered tent shelters, and more. This is only established campsite in the entire 280 sqkm reserve. Critically endangered silky sifakas (*Propithecus candidus*) and Indri (*Indri indri*) are found near this camp.

3) Reforestation and Forest Restoration: Illegal selective logging for wood for home construction, fuel-wood, and charcoal are growing threats to ASSR and Marojejy. Reforestation can reduce such anthropogenic disturbances in lemur habitats while also generating local income. Two reforestation projects are underway and the forest restoration project is in the planning stage. Reforestation projects utilize a variety of fast growing native trees as well as cash crops. In Befingotra village, near ASSR., the project has established a tree nursery which employs several members of the forest police (“CLP’s”). This nursery is also partnered with the local primary school. A second project is underway just outside the city of Sambava in partnership with a local ngo called RANOALA (English translation: water and forest) which operates its own tree nurseries. The forest restoration project is in collaboration with Missouri Botanical Garden (MBG) and awaits permits. The goal is to restore the far northern region of Marojejy National Park which has been impacted by slash-and-burn agriculture in recent years.

4) Malagasy PhD Student: Fostering the development of Malagasy people as future conservation leaders and researchers in Madagascar is critical. Foreign researchers are expected to work with and support Malagasy students. LCF currently supports a Malagasy PhD student named Jo Rakotoarison. He has already been working with the project for more than 1 year, and is a full-time student in the Department of Biology at the University of Antananarivo, Madagascar. Currently he is developing his dissertation proposal and establishing his graduate committee. Jo’s project will involve a line-transect population survey of the lemurs in ASSR at multiple sites. Credible recent population densities for many lemur species are not available. There has never been true population density determination for any of the eleven species of lemurs within ASSR.

5) Fresh Water Fish Farming: Bushmeat hunting of lemurs has dramatically increased in Madagascar over the past 10 years, and there is much interest in alternative sources of protein for villagers. In collaboration with a local ngo called “APPA” (acronym which stands for in English: Association of pisciculture producers in Andapa region), the project maintains a model fish pond (established several years ago) and will be establishing a new pisciculture project in Andasibe Mahaverika village. With fish breeding expert Mr. Guy Tam Hyock, the project exclusively breeds a locally endemic species which has become very endangered called “fony” (*Paratilapia polleni*). The goal of this project is 1) to create an alternative source of sustainable protein to reduce bushmeat hunting of lemurs 2) improve children’s health as protein deficiency has been documented, 3) create a new source of income generation, 4) reestablish wild populations. This is a complex and multi-faceted project but essentially involves the establishment of new fish farming associations in villages. LCF provides the materials and training to develop the

new ponds, but local communities manage these ponds themselves. Private ponds for single families are also developed in some cases. This project also results in the legal establishment of fishing season (closed for several months of the year) in local waterways and other new laws regulating sustainable fishing (such as fines for fishing with mosquito nets with very small holes that kill juvenile fish).

6) Fuel Efficient Cook Stoves: Logging for fuel-wood and charcoal threatens lemur habitats. Inefficient, traditional cooking methods exacerbate this problem because wood/charcoal is wasted. In collaboration with the Swiss-based NGO [ADES](#), the project sells fuel-efficient “rocket” stoves (for wood or charcoal) at-cost to local communities near ASSR and Marojejy. After several years of investigation with different stoves, it has become clear that these are the best available stoves in Madagascar. Tremendous positive feedback and high demand from villagers for these stoves has confirmed their quality. Not only are they sturdy and long-lasting with a true clay interior and metal housing, they require approximately 60% of the wood or charcoal to cook one cup of rice compared to traditional stoves.

7) Environmental Education: It can be difficult to change the attitudes and behaviors of adults, but children, if exposed to meaningful environmental education activities, can become outspoken conservationists. Large and rare lemurs such as silky sifakas and indri are literally breath-taking to observe. One of LCF’s most effective programs is the 3 days/2 nights structured visits to Camp Indri with up to 13 primary school students from Befingotra village. This village is adjacent to the park entrance but so few of the children have ever been inside the primary rainforest or have seen the really large silky sifaka and indri lemurs which are critically endangered flagship species. The project has created several gorgeous color posters in Malagasy (anti-bushmeat hunting and ASSR overview) which are displayed in schools and public spaces.

8) Forest Monitoring and Supplies for Park Rangers: ASSR and Marojejy are enormous mountainous rainforests, in total covering more than approximately 830 sq. km. There are less than fifteen park rangers, lacking the resources to effectively monitor such challenging terrain. This project organizes and funds forest monitoring missions with park rangers, local forest police, and our team members. Typically, these last 3 to 5 days and focus on the Camp Indri forest where long transects (~ 3 km each) are established. The project also provides park rangers and forest police with needed equipment such as boots and raincoats.

9) Support for [Antanetiambo Nature Reserve](#): This is one of the only nature reserves in northern Madagascar created by a local Malagasy resident named Desire Rabary, one of our closest collaborators. One family group of northern bamboo lemurs (*Hapalemur occidentalis*) is easily observed here, and they have become a growing destination for tourists. Mr. Rabary is one of the most sought after research (and tourist) guides in this region. He was awarded the Seacology Prize in 2010 and earned several weeks in the USA as well as \$10,000 USD award. This short film summarizes his work:

https://www.youtube.com/watch?v=gu33LggWIA8&feature=player_embedded

The project’s model fish pond is found here and managed through this reserve. Currently, the project supports a full-time forest guardian who lives inside the reserve. One of the three community libraries which LCF supports is found here, where English classes are taught.

10) Sustainable Agriculture: Slash-and-burn agriculture is perhaps the greatest threat to lemur habitats. Farming techniques and desirable crops that do not require slash-and-burn are badly needed. In collaboration with the NGO [CARE](#), this project supports yam planting training. These yams are extremely large, up to 40lbs., and can be easily grown on extremely degraded land where even rice will not grow. Yams are also highly nutritious and can serve as a substitute for manioc or cassava which can be toxic if not soaked for long periods of time (not the custom in this region). Yams, as a vine with a huge tuber, are also known to be much more cyclone resistant than manioc shrubs.

MacArthur Foundation Grant 106560-0: Plant Red List Assessment for the Lake Victoria Basin

Initiated 2015, with final workshop held during 2018. The project concluded in December 2018.

Research proposal:

1. RATIONALE

This proposal from the Rare Species Conservatory Foundation on behalf of the East African Plant Red List Authority, a volunteer network of the Species Survival Commission (SSC), seeks to prevent or reduce biodiversity loss, specifically plant diversity, and ecosystem degradation and to sustain ecosystem services for human wellbeing in the Lake Victoria Basin.

The Lake Victoria Basin holds a diverse range of vascular plant species, including endemics, and habitats that provide regionally important watersheds. The current portfolio of Important Biodiversity Areas will benefit from a comprehensive analysis of regional plant diversity including locations of endemics and regionally threatened plant species. Plants provide a wide range of vital resources to rural populations in addition to the important ecological services provided by forest habitats.

This project proposal addresses the loss of plant diversity through the following activities:

1. Application of the IUCN Red Listing process to the flora of the Lake Victoria Basin to provide an assessment of biodiversity loss (specifically plant extinction patterns), priorities for species conservation and complementary data for plants to add to the Important Biodiversity Area analysis for the Lake Victoria Basin.
2. The project will pull together the first regional assessment for plant conservation needs in the Lake Victoria Basin. This provides a stronger data set for protected area planning in the Lake Victoria Basin.
3. The proposal will build and strengthen the regional network of plant conservationists.
4. The produced Red List of Threatened Plants will provide a basis for reviewing protection measures for threatened wild plants in the Lake Victoria Basin.
5. Under collected sites/locations of important plant diversity in the Lake Victoria Basin will be identified and two will be subject to field survey.

The Lake Victoria Basin is undergoing massive changes in land use and the expansion of large-scale agriculture e.g. oil palm plantations. In addition, the surviving habitat areas are under increasing threat from small-scale agriculture, wood and charcoal harvesting etc. Under projected scenarios for climate change there is an imperative to retain watersheds (e.g. upland forest areas) as services that can buffer water supplies during fluctuating rainfall regimes.

The project serves the MacArthur Foundation's Conservation and Sustainable Development (CSD) strategy and to the specific grant guidelines for the Lake Victoria Basin. The project directly serves **The Foundation's overall goal for the Great Lakes region to prevent or reduce biodiversity loss and ecosystem degradation and to sustain ecosystem benefits for human wellbeing.**

The project will deliver the objectives of the Great Lakes Initiative through the following activities:

Understand and respond to increased environmental pressures from development and climate change impacts

1. Using the IUCN Red Listing process identify priority plant species and areas for conservation and develop data sets that can be used for protecting and restoring biodiversity and ecosystem services and provide a reference for monitoring the impacts of climate change and development.
2. Identify and plan for the conservation of plant diversity in the Lake Victoria Basin and identify, maintain and expand Key Biodiversity Areas and Climate Resilient Altitudinal Gradients.
3. Using a selected study site within the Lake Victoria Basin to work with stakeholders to explore the links between biodiversity, ecosystem services and expected changes caused by development and climate change.

Assist the rural poor in managing their resources for multiple benefits

1. Focus will be given to plant groups that have a traditional and indigenous value, notably medicinal, food, crop wild relative species.
2. Using a selected study site within the Lake Victoria Basin to work with stakeholders to explore the links between biodiversity, ecosystem services and expected changes caused by development and climate change.

2. PROJECT OR PROGRAM DESCRIPTION

SCOPE

The Plant Red List Assessment covers the plant diversity and associated habitats of the Lake Victoria Basin and is focused on using Red Listing as a tool and resource for understanding and responding to biodiversity loss driven by economic development and climate change impacts. Specifically, the project will develop a data set, IUCN red list of vascular plants for the Lake Victoria Basin that will directly guide the conservation of high biodiversity watersheds, landscapes and priority sites.

The thematic focus is the conservation of plant diversity and plant resources. The Red Listing of vascular plants for Eastern Africa is progressing but not completed. To date the East African Plant Red Listing Authority has assessed 1600 plant species. This project will assess 450 plant species, an estimated 10% of the Lake Victoria Basin. The candidate species will comprise endemics and regionally restricted and threatened species. This evaluation will allow for the better identification of Key Biodiversity Areas and the identification of Important Plant Areas.

Wild plant resources provide basic and fundamental services to rural communities. The vegetation of the Lake Victoria Basin is essential for providing a range of key ecosystem services to the 30 million inhabitants of the basin, these include the supply of timber (for artisanal and commercial use), charcoal, medicinal plants, wild vegetables, bush meat, and importantly the regulation of watersheds. These benefits to rural communities are being threatened by habitat clearance for timber extraction, mining and intensive agriculture.

PROJECT FINAL REPORT:

Funded Activities Update

Plant Red List Assessment for the Lake Victoria Basin is to undertake a plant Red List assessment of the Lake Victoria Basin to assess the risk of extinction for circa 600 endemic and regionally threatened plant taxa and to review/revise KBA and CRAG nominations for the area. Focus has been on support to the Eastern African Plant Red List Authority (EAPRLA) to compile the list of threatened plants of the Lake Victoria Basin and to bring together botanical experts from the region to assess the status of these plants using IUCN criteria.

Project activities have now been completed as to plant Red List assessments; these assessments and some targeted fieldwork have led to review of KBA and CRAG nominations. All plant Red List assessments have been submitted to IUCN. Several publications have either been published or have been submitted: one to SWARA to inform the East African/conservation public on the activities; and one to the Journal of the East African Natural History Society, showcasing the scientific and conservation results.

Objective 1: Red Listing

Activity 1: Establish project steering committee

Steering Committee formed (Q. Luke, J. Kalema, H. Beentje, R. Gereau, M. Maunder and P. Reillo). Later S. Nshutiyayesu and S. Ntore joined the committee. As of August 2016, Maunder left FIU and was not able to participate fully in the project; he still provided an advisory role during the second part of the project. A representative group (quorum) met at the EAPRLA meeting (Workshop 10) in Dar es Salaam (Oct 2015), at Workshop LVB1 (Kampala April 2016), Workshop LVB2 (Huye Sept 2016), Workshop LVB3 (Entebbe Jan 2017) and Workshop LVB4 (Nairobi Aug 2018).

Activity 2: Comprehensive review

An initial literature survey was completed by May 2016. A draft list of 262 threatened plant taxa of the Lake Victoria Basin (DLTPLVB) were produced by April 2016. A data capture agreement was signed with the East African Herbarium (the only one requiring such) and data capture was initiated in various herbaria as well as from literature, so as to provide distribution maps for threat status analysis using IUCN criteria; the geo-referencing of large numbers of herbarium specimens lent a solid base as to distribution data, as well as the computing of species' extent of occurrence (EOO) and area of occupancy (AOO), both of which are essential for proper IUCN Red List assessments. A second iteration of DLTPLVB was then produced and 532 taxa were assessed or considered in four workshops; another 137 freshwater plant taxa of the Lake Victoria Basin were reviewed and assessed by project executants for the IUCN Freshwater Specialist Group. Therefore, the total target number of taxa was reached (669 versus the target of 600) though 19 taxa were looked at but not assessed for various reasons (see attached spreadsheet). All these assessments were entered into the IUCN SIS database and, after review by expert colleagues, most have now been published.

Activity 3: Regional planning.

Regional planning consisted of organizing the four workshops with participants from Uganda, Kenya, Tanzania, Rwanda and Burundi, as well as several external colleagues. During the workshops at Kampala and Huye students were invited to learn about the Red List process and were taught how to assess specimens themselves.

Activity 4: Four workshops

Workshop 1 was held in Kampala, Uganda, and 186 taxa were discussed and assessed (target of 150 taxa). Students and staff from Makerere University attended and were instructed in the Red List process.

Workshop 2 was held in Huye, Rwanda, with students from Huye University attending and instructed in the Red List process; 174 taxa discussed and most assessed.

Workshop 3 was held at Entebbe, Uganda, with 102 taxa discussed and most assessed.

Workshop 4 was held in Nairobi, Kenya at which 103 taxa were assessed.

The PI also attended a workshop in Entebbe, representing EAPRLA, to review assessments and re-assessments of 137 freshwater plant taxa as part of co-operation with the IUCN Freshwater Specialist Group (Molluscs and Fish).

All 430 completed assessments were entered into IUCN SIS database, reviewed, and have been uploaded to the Red List website. The 103 taxa of Workshop 4 are awaiting review before being uploaded.

Activity 5: Submit results to IUCN

A total of 430 assessments from Workshop 1-3 have been entered into SIS and have been submitted to IUCN, reviewed and published on the IUCN RedList website. The 103 taxa from Workshop 4 are still awaiting review before being published. Another 137 freshwater species have been assessed by us and have been entered into SIS, and they have also been published on the IUCN Red List website.

Objective 2: Proposing possible KBAs/IPAs/CRAGs in Lake Victoria Basin

The steering committee discussed various possibilities of Key Biodiversity Areas (KBAs), Important Plant Areas (IPAs) and Climate-Resilient Altitudinal Gradients (CRAGs); all three are categories much used in the conservation world, but have not been used all that much in the tropics yet, as hard data are required for a proper set-up. With a combination of our Red Listing results and fieldwork, we feel we are in a position to provide meaningful contributions in the form of proposed KBAs, IPAs and CRAGs, as well as some areas of interest to the Alliance of Zero Extinction. These were discussed at the final workshop.

A first field visit was planned and carried out to 3 potential KBAs in 2016: Lake Mburo, Lake Nabugabo and Bugala Island in the Sese Islands. An additional field trip was carried out in 2016 by the PI in conjunction with the IUCN Freshwater Specialist Group (Dragonflies) and funded by their project as part of inter-project co-operation; areas visited were Akagera National Park and Nyungwe National Park in Rwanda, with a brief visit by PI to the Volcanoes National Park (also in Rwanda). During Workshop LVB3 a field trip was organized to two highly threatened forest fragments within the Entebbe/Kampala area, Ziika and Kisubi Forests. After Workshop LVB3 fieldwork was carried out in the Sango Bay/Minziro area, a transborder IPA/KBA area.

Site visited	# of taxa recorded	# of DLTPLVB taxa	# endemics	Checklist
Lake Mburo	225	-	-	
Lake Nabugabo	201	4	3	done, to be published as Nabugabo – Bugala article in JEANHS
Bugala Island	131	2	1	done, to be published as Nabugabo – Bugala article in JEANHS
Ziika forest	135	-	-	done, to be published as Ziika - Kisubi article in JEANHS
Kisubi forest	extra 39	-	-	done, to be published as Ziika - Kisubi in JEANHS
Sango Bay	421	4		done, to be published
Minziro	384	4		done, to be published
Nyungwe forest	430	28		
Shinyanga/Mwanza	147	14	13	

Due to the no-cost extension of the project at the end of 2017, it was possible to visit the last area, the Shinyanga/Mwanza area in Tanzania, with several narrow endemics in an area which is now densely populated and virtually devoid of natural vegetation.

Due to a shortage of time and/or political upheaval many interesting sites were not visited, which might prove to be either IPAs or Alliance for Zero Extinction (AZE) sites:

- the Rusizi Valley in Burundi, an area with several narrow endemics and with many threats varying from urban expansion (Bujumbura) to plantations, oil exploration and intensely farmed land;
- southern Burundi, with several narrow endemics and intense cultivation, peat extraction and dense live-stock

All these are areas where management policies are very much needed, but such policies need to be based on proper surveys and knowledge of threats, all of which means visits by botanists.

We strongly suggest that some of the remaining project funds be earmarked for a mapping exercise using the Red List data we produced, to establish the concentration areas for threatened species, as well as those areas where ‘data deficient’ taxa are concentrated.

c) Policy implications of funded activities

At the May 2016 meeting the workshop participants discussed how best to use the Red List assessments to advance conservation planning in the Lake Victoria Basin. There was a general sentiment that the assessments should be incorporated into the official IUCN database as soon as is possible to ensure they have official status. This incorporation has now been completed, and most of the taxa concerned have been published as part of the official IUCN RedList; some are still under review and will then be published.

Publication of plant Red List data impacts directly on conservation, in that large-scale projects in the region that are subject to obligatory EIA (Environmental Impact Assessments) have to abide by the official IUCN Red List. There are several East African examples where projects had to be adjusted because of threatened plants being present in or near the project areas.

During the four workshops, several points became clear that have a bearing on our knowledge of threatened taxa:

1. Many species that we have assessed are represented in herbarium collections by low numbers of specimens. It is not unusual for a species to be known from five or fewer collections – a condition virtually unknown in European or American Red Listing! As an example, of the 114 taxa from the Lake Victoria Basin that can be called ‘narrow endemics’ (i.e. whose worldwide distribution is a very small area, usually less than a few square kilometres), *53 are known from a single specimen*; another seventeen *are known from only two specimens*; five are known from only three specimens; four taxa are known from only four specimens, and one is known from only five specimens. This means that 80 narrow endemics are known from five specimens or fewer; a policy conclusion to be drawn from this is that more fieldwork is urgently needed to put both conservation and Red List assessments on a more solid basis.
2. In several countries (Burundi and Tanzania especially) there has been a large decline in field collecting in the project areas since the 1970s; the majority of collections has been made by a small number of collectors. A policy conclusion to be drawn is that field collectors are in decline, and that training of a new generation of field botanists should be a high priority if our knowledge of IPAs, KBAs and plant diversity in general is seen as important.
3. There is a very variable quality of collections, particularly with regard to field data: on many specimens there is very little information as to habitat; there is hardly ever any information on population sizes. Policy conclusion: young botanists need to be trained better.
4. We noted the specific threat to mid altitude species in Rwanda and Burundi, where habitat conversion is near complete, and the new threats to montane habitats: peat mining and expanding impact of pastoralists. We are undertaking an analysis of these issues that will be published as a peer reviewed paper.

d) Evaluation of results

We have met the targets as to numbers of endemic and threatened plant species assessed and submitted to IUCN. We have completed a survey of possible KBAs, IPAs and CRAGs. We have prepared several publications (popular as well as scientific) to make our results known to a wider public. We therefore evaluate the results of these activities as successful; with two riders, in the form of as-yet-incomplete data. Due to the nature of publishing articles with a

group of co-authors (eight, for the checklists!) we have not completed the publication process yet. We have identified possible KBAs, IPAs and CRAGs based on the Red List assessments we have completed and on the fieldwork we have done, but final submission of results on these categories requires an as-yet not done mapping exercise. While we have completed our targeted list of Red List assessments, there is a need to follow up on some of these. Twenty-two taxa (4 % of the total) have been labelled as Data Deficient – usually because they have not been seen for many years, because they are known only from very small numbers of specimens (< 3, for most), and because the area where they occur has not been visited by botanists for many years. Targeted fieldwork is required for these taxa.

Objective 3: Adaptation

Commitments to other projects/work has slowed initiation/implementation of activities and thus pushed the project timetable forward. Rapid change in vegetation is most severe in Rwanda and Burundi. Many areas in these countries are undergoing a rapid deterioration of natural habitats, with very little original vegetation remaining outside a few protected areas. The political situation in Burundi makes field visits unlikely – and this is the country where it seems most needed! Of the 162 taxa in the categories Endangered/Critically Endangered, 96 taxa (60 %) occur in Burundi; and 39 species (25 % of the total) occur exclusively in Burundi. On the positive side, the funded activities have dramatically increased our knowledge of threatened taxa in the Lake Victoria Basin area; publication of our assessments on the IUCN Red List website will lay a solid basis for future Environmental Impact Assessments in this area, as knowledge of threatened plant taxa and their distribution now rests on a solid and accessible basis.

For the first time IPAs, KBAs and CRAGS have been identified for the LVB area. This will help considerably with national programmes in Uganda, Kenya, Rwanda, Burundi and Tanzania, when such high diversity/high conservation need areas need to be identified. For Burundi, almost the whole country is within the LVB area, for Rwanda about half and therefore our outcomes are of national significance; in Uganda, Kenya and Tanzania the impact is more regional but still significant, underpinned as these results are by documented facts and field experience.

Objective 4: Learning

The following summarise important learning derived from this project:

1. The fragility of field experience in the project area. To assess effectively the conservation status of a species requires an understanding of the wild habitats and wild populations. It is clear from our work that such experience is held by only a handful of practising botanists in the Lake Victoria Basin, perhaps not exceeding five individuals.
2. Not only is this a small group of experts but it is also demographically vulnerable; there is an urgent need to bring on young field botanists. The lack of such a young stratum is linked to the very low number of universities teaching botany: Makerere, University of Rwanda, University of Dar es Salaam, and the University of Nairobi. There is an urgent need to establish university teaching in tropical botany and inventory, particularly field identification and inventory skills. This idea will be developed by the project team in a final workshop, if this can be held from remaining project funds. Another challenge is the very limited recruitment opportunities on the job market of the few botanists trained. Regional governments and the private sector hardly provide job slots for botanists, which has significantly reduced the desire of students to train in Botany.
3. Our assessments are illustrating a massive loss of wild habitat in the project area, with near complete conversion of wildlands outside PAs in Rwanda and Burundi; and an enormous deterioration of wild habitat outside protected areas all over the project area, linked to massive population increases in all five countries, and the resultant conversion of wild habitat to cultivated areas (including plantations), urban centres and livestock-grazing areas. Large-scale projects such as hydro-electric schemes, oil exploration and industrial peat and other mineral extraction have large-scale impacts as well.
4. Potential for recording extinctions. In our workshops we reviewed 88 taxa known from one field collection only and 85 taxa not seen/collected in over 50 years, a total of 50 taxa shared both characteristics. Our

assessments revealed one species, *Nymphaea themarum* from Rwanda, now extinct in the wild; twenty-seven species that are possibly extinct; forty species that are critically endangered (= well on the way to extinction); and 150 species that are Endangered. In addition to this, we had to declare twenty-two species Data Deficient, usually because there was little information about these taxa and they had not been seen for many decades.

5. An initial field visit to Ssesse Island revealed the presence of several plant species not seen in the wild for several decades; however, more important was the large-scale loss of forest for expanding oil palm plantations, and, to a lesser extent, construction of resorts to support tourism activity.

Objective 5: Sustainability

The EAPRLA is developing a strategy for long term funding. We anticipate some follow up funding for species conservation work from the MBZ Species Conservation Fund. There is an urgent need to establish university teaching in tropical botany and inventory, particularly field identification and inventory skills. This idea will be developed by the project team in a final workshop, if this can be held from remaining project funds. We have started discussions regarding a masters in plant conservation to be offered at Makerere University in Uganda.

Additional comments

Most of the 137 taxa assessed for the Freshwater Group were assessed as Least Concern, but matters were different for the 533 taxa we assessed from our own target species list. While 187 of these taxa (35 %) have been assessed as 'Least Concern' as they seem safe, for the time being, 26 taxa (4.5 %) have been assessed as Near Threatened; these will move into the threatened categories if habitat deterioration continues. 107 taxa were assessed as Vulnerable (20 %) ; 150 (28 %) as Endangered; and 40 (7.5 %) as Critically Endangered. The remainder of 22 (4) is Data Deficient – and Extinct in the Wild (see below):

Nymphaea thermarum, a tiny waterlily, was known from a single site in Rwanda, and grew in hot pools. The stream feeding the pools was diverted, and all plants of this species have now died. **Extinct in the Wild.**

Crotalaria varicosa is a grassland shrub, endemic to the shore of Lake Victoria in N Tanzania. It does not occur in any protected area, the whole known distribution area is now densely populated and all natural vegetation has been converted to agricultural land. These plants have not been seen for 50 years: **Endangered.**

Habenaria lewallei is a ground orchid endemic to the Rusizi Plain in southern Burundi; its distribution area is undergoing habitat loss through urbanization (Bujumbura), clearing for agriculture and livestock, and the threat of oil exploration. **Critically Endangered.**

Rotala stuhmannii is a herb, only known from a single specimen collected in 1892 in the Biharamulo area in NW Tanzania; the habitat is unknown, so it is difficult to assess this taxon. **Data Deficient** – further research needed. Finally, *Impatiens nyungwensis* is only known from the Nyungwe Forest in Rwanda – a well-protected National Park. As no threats are known and the park is safe, the assessment has to be **Least Concern**. When a threat develops to the park, such as happened to Gishwati National Park in the 1994 genocide: 99 % of the forest was cleared. Such protected areas can be fragile, which is why we call those narrow endemics in protected areas **Least Concern (protected area dependent (PA))**. But since the 'PA' tag does not appear on the IUCN published rating (except in the details which most searchers do not get to), the EAPRLA has strongly proposed to IUCN (but so far with no success) that this tag be made readily visible to the end-users.

Proposed use of unspent residuals: c. US\$ 11,000

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| <ol style="list-style-type: none">1. Financial contribution to publication of Sango Bay/Minziro FR, Ziika/Kisubi and Nabugabo/Ssese checklists in JEANHS2. The extended period of the project has resulted in greater reliance on the local NGO's accounting and financial management than was originally envisaged. It is proposed that part of the residual funds (US \$5000) be donated to EAWLS in compensation.3. The balance of remaining funds should be utilized to support field trips using the Red Listing vehicle to investigate DD & CR taxa with EAWLS interns and NMK staff from the East African Herbarium |
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III. RSCF Conservation Education Activities

In 2018, RSCF maintained relationships with domestic and international zoological institutions and agencies and expanded its web site (www.rarespecies.org). The site links to many conservation and environmental organizations, presents RSCF's mission and scope for all audiences, and discusses conservation initiatives in detail. The site is updated regularly, and provides access to in-house and published scientific papers, program documents and urgent conservation topics and issues. RSCF also maintains a real-time social media presence (e.g., FaceBook, Twitter, Instagram). In addition, RSCF staff in 2018 presented lectures and seminars to scientific and lay audiences (e.g., local universities, nature centers, international conservation meetings and workshops), and RSCF's board members served as academic advisors for graduate-level university students. (*Please see discussion on RSCF's collaboration with Florida International University—Tropical Conservation Institute.*) During 2018, RSCF also hosted student interns and trainees and presentations at the expanded Conservatory headquarters in Loxahatchee.

IV. Media Development

In the course of implementing its conservation programs, RSCF generates a large amount of data, video footage, photographs, and technical narrative. Integral to the research effort itself, these materials also provide the basis for information sharing with scientific and lay audiences. RSCF compiles media resources into comprehensive reference libraries of imperiled ecosystems and species, including images and event histories that document project timelines in their entirety. The more endangered the species, the more crucial the record. Project-site host governments are a further beneficiary of this media development initiative, many of them lacking the funds to document their own country's biological resources, and what is becoming of them.

RSCF partners draw upon raw material from RSCF's field research. Scientific media content is packaged for use by partners, and is seen in exhibits and educational materials suitable for diverse audiences (e.g., zoo visitors, students, professional educators, web site browsers, conservation organizations, governmental agencies). Findings are also shared with scientific colleagues through technical publications associated with *in situ* conservation initiatives, propagation and other activities. RSCF is also acutely aware of the need to expand media programs and adapt/translate materials for educators, students and researchers at field project sites. RSCF's programs and field material are featured regularly in popular print and film, in addition to scientific publications for professionals. For example, RSCF's instrumental role in creating the world's first new national park of the millennium was presented in *Wildlife Conservation*, *National Geographic*, and *Palm Beach Illustrated*. Similarly, RSCF's work has been highlighted on *CNN*, and *National Geographic Today*, and the Dominica Program was the feature story for *Jack Hanna's Animal Adventures* season premier entitled, "In Search of the Sisserou".

RSCF regularly contributes feature articles and research papers to technical and lay journals. Similarly, the 2003-2004 bongo repatriation effort was featured on *CNN*, *BBC*, network television, the *New York Times*, multiple web news services (including *National Geographic* and *Time Magazine for Kids*), and over 30 newspapers across the U.S., Canada, Europe and Africa. During 2005, RSCF assisted the British Broadcasting Corporation while filming on Dominica, part of a multi-year, many-island documentary of the natural and geomorphological histories of the Caribbean; this series reached U.S. and European markets during 2010-2011. During 2006, RSCF participated in a novel, mini-documentary website campaign sponsored by Lincoln-Mercury and Amazon.com, entitled “My Dream”. See www.mydream.tv and the submenu “Give Back” / “Conserve an Endangered Species” to view the film and profile about RSCF programs. RSCF trustee Mark Davis, DVM compiled, directed and produced a multi-cultural wildlife documentary film, “Horns of Hope,” which debuted in 2012 and has been shown in numerous public venues since. The film highlights the poaching plight of black rhino in Zimbabwe and a diversity of conservation and recovery strategies for Africa’s premier flagship mammal species, including rhinoceros and bongo antelope; in addition, it inspires environmental awareness through cultural, spiritual and scientific messaging.

RSCF’s pivotal role in the Florida Grasshopper Sparrow Recovery effort (final report to USFWS referenced above) was featured as a cover story in the autumn 2017 issue of *Audubon* magazine and was featured in multiple newspapers and public-access journals during 2018. This controversial, urgent conservation effort was highlighted both to illuminate the many scientific, political and logistical challenges and to stimulate extramural, philanthropic investment—which has proven to be successful and significant. Federal and state agency funding for the sparrow program is at an all-time low, even as North America’s most endangered bird approaches extinction in the wild. Significant video footage taken at RSCF, along with comprehensive photographic records and data, has been archived and sent to USFWS as part of the final report for the captive-breeding grant that concluded in early 2018.

Increasingly, social media has enabled RSCF to efficiently reach a broad audience with day-to-day video posts, staff blogs and contributions, photos, real-time dialogue with field staff, and related news stories both in print and online. Some RSCF-generated videos have gone viral, while other material has been archived by network news organizations and conservation-themed websites and advocates (e.g., Arkive.org). RSCF staff continue to present at local, national and international conservation venues and participate in nature documentary filming. RSCF staff, research associates and program partners published in technical peer-reviewed journals, popular magazines, local and regional newspapers, and in online forums. Please see RSCF’s website for a complete and historical list of reprints, press releases, links and related materials.

V. Facility expansion and post-hurricane recovery

Just weeks prior to devastating Hurricane Maria in September 2017, Hurricane Irma impacted all of south Florida and wreaked havoc on the Conservatory, causing ~\$150,000 in infrastructure damage to enclosures, fencing, buildings, water and power systems and equipment. Thankfully, no animals were lost, but one male bongo suffered a broken humerus (which fully mended). While RSCF provided emergency assistance to Dominica, staff commenced debris removal and rebuilding of aviaries and life-support systems. 2018 was a rebuilding year, during which RSCF substantially refurbished and reinforced physical infrastructure and expanded office, laboratory and clinic space.

Significantly, RSCF annexed a five-acre property adjacent to the original Conservatory parcel which includes substantial physical infrastructure to enhance Conservatory operations. Currently the Rare Species Conservatory Foundation (RSCF) owns three contiguous parcels along E Road in Loxahatchee Groves (addresses 1104, 1222 and 1288 E Road, Loxahatchee Groves 33470) which altogether comprise the Conservatory and represent RSCF’s wildlife and conservation center and the hub for international scientific, conservation research.

The new 5-acre addition enhances RSCF’s wildlife conservation activities and facilities as follows:

- Expands propagation and management programs for endangered animals and plants
- Enhances facilities for large-animal holding (barn) and small-animal treatment (clinic space)

- Provides a central, main structure for research scientists, visiting scholars, students and staff
- Expands outreach and educational facilities for the students, interns, and the public
- Provides central life-support systems (incubators, brooders, food and specimen storage)
- Provides a central meeting area for scientific symposia and meetings
- Enhances program development with partnering universities (e.g., Florida International University's Tropical Conservation Institute) and other institutions (e.g., American Museum of Natural History; Zoo Miami, Tampa Zoo, international NGOs)
- Expands botanical culture activities and facilities
- Expands laboratory space, diagnostics and veterinary support
- Expands office, managerial and staff-support space
- Expands equipment storage (maintenance and scientific)
- Expands special diet preparation and storage

As a 30-acre facility, the Conservatory represents RSCF's international headquarters for wildlife conservation, which focuses on global biodiversity preservation. RSCF's interdisciplinary programs integrate applied field and clinical research on endangered species, propagation and management of critical, flagship species for repatriation and reintroduction, developing husbandry protocols for critical taxa, and implementing protected-area policies and strategies for long-term ecosystem conservation. RSCF also collaborates with scientific and governing authorities for wildlife in conservation hotspot zones, primarily in the tropics and neo-tropics, to develop tangible conservation solutions for imperiled species and habitats

The Conservatory in Loxahatchee serves as a captive-propagation center and research complex for endangered species, as it also provides a hub for international exchange and outreach to students, interns, collegial scientists and the general public. The expanded facilities significantly enhance RSCF's conservation mission both locally and internationally and facilitate existing and future programs to protect and restore the world's highest priority wildlife and natural areas. Please see RSCF's website at www.rarespecies.org for a detailed discussion about specific projects, organizational structure, and conservation strategies.

The new property was acquired after years of amicable negotiation with the seller, who generously donated \$350,000 of the \$1M purchase price. RSCF took possession on 24 September 2018 and immediately put the property into full use. The main structure is utilized for office, meeting, research and laboratory space, and for expanded diet preparation and veterinary/animal husbandry services (e.g., artificial incubation and neonatal care). The small CBS building has been transformed into the Animal Recovery Center (ARC), providing space for specialized animal care, treatment and observation. The large CBS barn is used for large-animal (i.e., bongo) holding, large-animal treatment/quarantine, large-equipment storage/maintenance, and as a staging/workshop area for enclosure fabrication and construction projects.

Digital Imaging: Thanks to a special grant, RSCF purchased a fully portable, Sound Eklon 1109G Digital Radiography System, to be shared cooperatively among local wildlife non-profit centers. The system comprises a suitcase-based computer and control system coupled to a digital imaging plate that allows both clinical and field-based x-ray imaging of small and large animals. Under an agreement with the Rainforest Clinic in Loxahatchee, patients from all local wildlife non-profits can benefit from the latest in digital x-ray imaging at no cost. In addition, the clinic provides an annual stipend to RSCF in consideration for providing digital imaging services to regular clients. This technology provides limitless, film-free, fast, fine-detail, images that can be enhanced, saved and shared among researchers and veterinarians. Diagnostics are maximized while handling time is minimized, significantly reducing patient stress. This digital radiography system was instrumental in guiding the full recovery of an orphaned bongo antelope calf, born with a broken distal metacarpal. The system has also been invaluable for diagnosing health issues in parrots and small primates since its deployment.

APPENDIX A: Board of Directors

Paul R. Reillo, Ph.D., University of Maryland (Zoology). Field-oriented population biologist, ecological geneticist and environmental engineer. Rare Species Conservatory Foundation founder and president. Technical expertise in field ecology, demographic and genetic analysis of small populations and animal husbandry.

Richard D. Estes, Ph.D., Cornell University (Vertebrate Zoology). Behavioral zoologist and ecologist. Specialist in field studies of large African mammals. Species Survival Commission Chairman for Antelope Specialist Group of the World Conservation Union (IUCN); Earthwatch Scientific Advisor; Associate, Harvard Museum of Cultural and Natural History.

George Amato, Ph.D., Yale University (Biology). Director and Affiliated Professor, Sackler Institute of Comparative Genomics, American Museum of Natural History. Adjunct associate professor at Columbia and Fordham universities, research associate in the Ecology and Evolutionary Biology Department of Yale University. Conservation geneticist specializing in non-invasive sampling techniques for endangered species, and monitoring the trade in endangered species products using DNA-based forensic science.

Christopher Langen, Esq. Attorney, parrot enthusiast and conservation devotee, having traveled to 26 countries to view parrots alone. Fluent in four languages and provides both legal counsel to RSCF and international program perspective and expertise.

APPENDIX B: Year-end, 2018 species list at RSCF, maintained under USDA, USFWS, and Florida FWC licenses

Iguana iguana (common green iguana)
Leontopithecus rosalia (Golden Lion Tamarin)
Leontopithecus chrysomelas (Golden-headed Lion Tamarin)
Cebuella pygmaea (Pygmy marmoset)
Boocercus euryceros isaaci (eastern bongo)
Amazona rhodocorytha (Red-browed Amazon parrot)
Amazona vinacea (Vinaceous Amazon parrot)
Amazona brasiliensis (Red-tailed Amazon parrot)
Amazona farinosa (Mealy Amazon parrot)
Amazona imperialis (Imperial parrot)
Pionites leucogaster (White-bellied caique parrot)
Aratinga guarouba (Golden conure)
Derophtus accipitrinus accipitrinus (Guyana hawkheaded parrot)
Pionites melanocephala (Black-headed caique)
Dromaius novaehollandiae (Emu)
Ammodramus savanarum florianus (Florida Grasshopper Sparrow)

APPENDIX C: 2018 RSCF Physical Plant Inventory

- 30 landscaped acres, property and tangible-tax exempt (Palm Beach County, FL), fenced and cross-fenced (1.6 miles 8' fencing, mostly hi-tensile; 1.25 miles 4-6' fencing)
- 12 interconnected hoofstock paddocks, with 8' gates, loading corrals, pole barns for feeding stations, troughs, 9-stall CBS barn (with turn-out area)
- 1.5 acre mixed-species area, with 40 flights, including 13 walk-in, landscaped enclosures.
- 12 additional free-flight aviaries and stand-alone primate enclosures.
- 30'x12'x10' zoomesh primate enclosure
- 5 hurricane-proof bunkers (including, weaning, evacuation and workshop rooms)
- 3 hurricane-proof small animal breeding spaces (Florida Grasshopper Sparrow)
- 13 soft-sided outdoor sparrow aviaries (for incoming wild birds and breeding pairs)
- aviary kitchen/ food prep room
- dishwashing building
- hay and grain storage buildings
- 2 stand-alone, reverse-osmosis water purification systems (separate buildings)
- Sound Eklun 1109G portable radiography system (housed at Rainforest Clinic)
- office/lab with nursery (600 sq. ft.)
- hurricane-resistant veterinary clinic, surgery and quarantine (1200 sq.ft.)
- personnel quarters, with separate intern/guest accommodation (1300 sq.ft.)
- meeting, staff-support and laboratory space (two buildings, 7000 sq. ft. total), including rearing laboratories
- technical equipment (e.g., incubators, brooders, video, computers, tranquilizer equip., respirator, anesthesia)
- shop and tools (tractor, all-terrain vehicles, bushhog, mower, trimmer, auger, sub-soiler, hand tools, welder, specialty fencing tools, plumbing, electrical supplies, rolling stock, 3 golf carts, etc.)
- backup diesel and gasoline generators—stationary and portable.