NSF 96-115 Smith

								FOR NSF USE	ONLY	
ORGANIZATION Montana State University - Bozeman PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR					PROPOSAL NO. AWARD NO.			DURATION (MONTHS)		
								Proposed	Granted	1
										1
· 										
			ı	1			/EAR	1	2	3
A. SENIOR PERSONNEL: PI/PD, Co-PI'S, F	,	nior Associates			NSF Fund					
(List each separately with title, A.7. show		Tiele			Person-mo					
	ast Name ane	Title PI		0.00	ACAD 0.00	2.00		\$15,556	\$15,867	\$16,184
2.	ane	PI		0.00	0.00	0.00		\$15,556	\$13,867	\$16,164
<u></u>				0.00	0.00	0.00		γU	ÇÜ	٥٦
(2) TOTAL SENIOR PERSONNEL (1	1-6)							\$15,556	\$15,867	\$16,184
B. OTHER PERSONNEL (SHOW NUMBER	· · · · · · · · · · · · · · · · · · ·							Ψ±3,330	Ų±3,007	Ψ±0,±0+
1. (0) POST DOCTORAL ASSOCIATES	,			6.00	0.00	0.00		\$22,500	\$45,900	\$46,818
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.) 0.00 0.00							\$0	\$0	\$0	
3. 1) GRADUATE STUDENTS								\$18,000	\$18,360	\$18,727
4. (2) UNDERGRADUATE STUDENTS	5							\$10,800	\$5,508	\$5,618
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)								\$37,440	\$19,094	\$0
6. (0) OTHER								\$0	\$0	\$0
TOTAL SALARIES AND WAGES (A+B)								\$104,296	\$104,729	\$87,347
C. FRINGE BENEFITS (IF CHARGED AS DII								\$33,189	\$32,875	\$24,378
TOTAL SALARIES, WAGES AND FRIN	GE BENEFITS (A+B+C	<u> </u>						\$137,485	\$137,604	\$111,726
). PERMANENT EQUIPMENT (LIST ITEM Equipment over \$5,000	AND DOLLAR AMOU	JNT FOR EACH IT \$0		\$5,000)						
TOTAL EQUIPMENT								\$0	\$0	\$0
	MESTIC (INCL. CANA	DA, MEXICO ANI	D U.S. POSSESSIO	NS)				\$0	\$794	\$1,588
2. FOR	REIGN							ćo	\$0	\$0
								\$0	ŲŪ	ŞÜ
F. PARTICIPANT SUPPORT COSTS		Year 1		Year 3				ŞU	ΨŪ	γo
1. STIPENDS		\$0	\$0	\$0				ŞU	Ų	Ų
1. STIPENDS 2. TRAVEL		\$0 \$0	\$0 \$0	\$0 \$0				ŞU	ψŪ	Ų
 STIPENDS TRAVEL SUBSISTENCE 		\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				ŞU	ΨU	Ų.
 STIPENDS TRAVEL SUBSISTENCE OTHER 	ANITC	\$0 \$0	\$0 \$0 \$0	\$0 \$0				·	·	·
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP.	ANTS	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$0	\$0	\$0 \$0
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 5. OTHER DIRECT COSTS	ANTS	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0	\$0	\$0
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES		\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500	\$0 \$10,500	\$0 \$10,500
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT		\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0	\$0 \$10,500 \$0	\$0 \$10,500 \$1,000
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 5. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES		\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000	\$0 \$10,500 \$0 \$5,000	\$0 \$10,500 \$1,000 \$2,000
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT		\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0	\$0 \$10,500 \$0	\$0 \$10,500 \$1,000
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS	TATION/DISSEMINAT	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000	\$0 \$10,500 \$0 \$5,000 \$1	\$0 \$10,500 \$1,000 \$2,000 \$2
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES	TATION/DISSEMINAT	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0	\$0 \$10,500 \$0 \$5,000 \$1 \$0	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe	TATION/DISSEMINAT	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS	TATION/DISSEMINAT	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS 4. TOTAL DIRECT COSTS (A THROUGH G	TATION/DISSEMINAT	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS 8. TOTAL DIRECT COSTS (A THROUGH G INDIRECT COSTS (SPECIFY RATE AND I	TATION/DISSEMINAT res) i) BASE)	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS I. TOTAL DIRECT COSTS (A THROUGH G Name of indirect cost item Year 1 Modified Total Direct Costs except	TATION/DISSEMINAT es) BASE)	\$0 \$0 \$0 \$0 \$100 \$100 \$154,985	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS I. TOTAL DIRECT COSTS (A THROUGH G Name of indirect cost item Year 1 Modified Total Direct Costs exc	TATION/DISSEMINAT ees) BASE) cluding XXXXXXXX cluding XXXXXXXX	\$0 \$0 \$0 \$0 \$0 HON Amount \$154,985 \$153,900	\$0 \$0 \$0 \$0 \$0 Rate	\$0 \$0 \$0 \$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL NUMBER OF PARTICIP. 6. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENT 3. CONSULTANT SERVICES 4. COMPUTERS SERVICES 5. SUBAWARDS 6. OTHER (grad student tuition & fe 6, OTHER (instrument shipping) TOTAL OTHER DIRECT COSTS I. TOTAL DIRECT COSTS (A THROUGH G Name of indirect cost item Year 1 Modified Total Direct Costs except	TATION/DISSEMINAT ees) BASE) cluding XXXXXXXX cluding XXXXXXXX	\$0 \$0 \$0 \$0 \$100 \$100 \$154,985	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT ees) BASE) cluding XXXXXXXX cluding XXXXXXXX	\$0 \$0 \$0 \$0 \$0 HON Amount \$154,985 \$153,900	\$0 \$0 \$0 \$0 \$0 Rate	\$0 \$0 \$0 \$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414 \$132,728
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT ies) ii) BASE) cluding XXXXXXXX cluding XXXXXXXX cluding XXXXXXXX	\$0 \$0 \$0 \$0 \$0 HON Amount \$154,985 \$153,900	\$0 \$0 \$0 \$0 \$0 Rate	\$0 \$0 \$0 \$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT ees) BASE) cluding XXXXXXXX cluding XXXXXXXX H+I)	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0				\$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$132,728
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT es) BASE) cluding XXXXXXX cluding XXXXXXX cluding XXXXXXX H+I) UPPORT OF CURREN	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0				\$0 \$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704 \$67,716 \$227,419	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$132,728 \$55,800 \$188,527 \$0
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT es) BASE) cluding XXXXXXX cluding XXXXXXX cluding XXXXXXX H+I) UPPORT OF CURREN	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	IT \$			\$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685 \$68,193 \$228,878 \$0	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704 \$67,716 \$227,419 \$0	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$132,728 \$55,800 \$188,527 \$0
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT es) BASE) cluding XXXXXXX cluding XXXXXXX cluding XXXXXXX H+I) UPPORT OF CURREN	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	IT \$		FOR	\$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685 \$68,193 \$228,878 \$0 \$228,878	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704 \$67,716 \$227,419 \$0 \$227,419 \$0	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$55,910 \$2 \$19,414 \$132,728 \$55,800 \$188,527 \$0 \$188,527
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT es) BASE) cluding XXXXXXX cluding XXXXXXX cluding XXXXXXX H+I) UPPORT OF CURREN	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	IT\$			\$14,500 \$0 \$3,000 \$0 \$0 \$5,700 \$0 \$23,200 \$160,685 \$68,193 \$228,878 \$0 \$228,878 \$0	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704 \$67,716 \$227,419 \$0 \$227,419 \$0	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$55,910 \$2 \$19,414 \$132,728 \$55,800 \$188,527 \$0 \$188,527
1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (TATION/DISSEMINAT es) BASE) cluding XXXXXXX cluding XXXXXXX cluding XXXXXXX H+I) UPPORT OF CURREN	\$0 \$0 \$0 \$0 \$0 \$100 \$154,985 \$154,985 \$153,900 \$126,818	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	•			\$0 \$14,500 \$0 \$3,000 \$0 \$5,700 \$0 \$23,200 \$160,685 \$68,193 \$228,878 \$0 \$228,878 \$0 \$17,000 \$17	\$0 \$10,500 \$0 \$5,000 \$1 \$0 \$5,804 \$1 \$21,306 \$159,704 \$67,716 \$227,419 \$0 \$227,419 \$0	\$0 \$10,500 \$1,000 \$2,000 \$2 \$0 \$5,910 \$2 \$19,414 \$132,728 \$55,800 \$188,527 \$0 \$188,527

*SIGNATURES REQUIRED ONLY FOR REVISED BUDGET (GPG III.B)

TOTAL = \$644,825