## APPENDIX 3

TURTLE MARKING CODES AND HERPETOFAUNA PHOTO VOUCHER GUIDELINES

Appendix 3
Turtle Marking Codes \& Herpetofauna Photo Vouchering

## MARKING CODES FOR TURTLES:

2 scutes marked $=120$ individual marks:

| AB | BC | CH | HI | IJ | JK | KL | LM | MN | NO | OP | PQ | QV | VW | WX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AC | BH | CI | HJ | IK | JL | KM | LN | MO | NP | OQ | PV | QW | VX |  |
| AH | BI | CJ | HK | IL | JM | KN | LO | MP | NQ | OV | PW | QX |  |  |
| AI | BJ | CK | HL | IM | JN | KO | LP | MQ | NV | OW | PX |  |  |  |
| AJ | BK | CL | HM | IN | JO | KP | LQ | MV | NW | OX |  |  |  |  |
| AK | BL | CM | HN | IO | JP | KQ | LV | MW | NX |  |  |  |  |  |
| AL | BM | CN | HO | IP | JQ | KV | LW | MX |  |  |  |  |  |  |
| AM | BN | CO | HP | IQ | JV | KW | LX |  |  |  |  |  |  |  |
| AN | BO | CP | HQ | IV | JW | KX |  |  |  |  |  |  |  |  |
| AO | BP | CQ | HV | IW | JX |  |  |  |  |  |  |  |  |  |
| AP | BQ | CV | HW | IX |  |  |  |  |  |  |  |  |  |  |
| AQ | BV | CW | HX |  |  |  |  |  |  |  |  |  |  |  |
| AV | BW | CX |  |  |  |  |  |  |  |  |  |  |  |  |
| AW | BX |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Marking codes for turtles:
3 scutes marked $=560$ individual marks:

| ABC | ACW | AJK | ALW | AQW | BHP | BJX | BNO | CHM | CJQ | CMV | HIK | HKQ | HOP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ABH | ACX | AJL | ALX | AQX | BHQ | BKL | BNP | CHN | CJV | CMW | HIL | HKV | HOQ |
| ABI | AHI | AJM | AMN | AVW | BHV | BKM | BNQ | CHO | CJW | CMX | HIM | HKW | HOV |
| ABJ | AHJ | AJN | AMO | AVX | BHW | BKN | BNV | CHP | CJX | CNO | HIN | HKX | HOW |
| ABK | AHK | AJO | AMP | AWX | BHX | BKO | BNW | CHQ | CKL | CNP | HIO | HLM | HOX |
| ABL | AHL | AJP | AMQ | BCH | BIJ | BKP | BNX | CHV | CKM | CNQ | HIP | HLN | HPQ |
| ABM | AHM | AJQ | AMV | BCI | BIK | BKQ | BOP | CHW | CKN | CNV | HIQ | HLO | HPV |
| ABN | AHN | AJV | AMW | BCJ | BIL | BKV | BOQ | CHX | CKO | CNW | HIV | HLP | HPW |
| ABO | AHO | AJW | AMX | BCK | BIM | BKW | BOV | CIJ | CKP | CNX | HIW | HLQ | HPX |
| ABP | AHP | AJX | ANO | BCL | IN | BKX | BOW | CIK | CKQ | COP | HIX | HLV | HQV |
| ABQ | AHQ | AKL | ANP | BCM | BIO | BLM | BOX | CIL | CKV | COQ | HJK | HLW | HQW |
| ABV | AHV | AKM | ANQ | BCN | BIP | BLN | BPQ | CIM | CKW | COV | HJL | HLX | HQX |
| ABW | AHW | AKN | ANV | BCO | BIQ | BLO | BPV | CIN | CKX | COW | HJM | HMN | HVW |
| ABX | AHX | AKO | ANW | BCP | BIV | BLP | BPW | CIO | CLM | COX | HJN | HMO | HVX |
| ACH | AJJ | AKP | ANX | BCQ | BIW | BLQ | BPX | CIP | CLN | CPQ | HJO | HMP | HWX |
| ACI | AIK | AKQ | AOP | BCV | BIX | BLV | BQV | CIQ | CLO | CPV | HJP | HMQ | IJK |
| ACJ | AIL | AKV | AOQ | BCW | BJK | BLW | BQW | CIV | CLP | CPW | HJQ | HMV | IJL |
| ACK | AIM | AKW | AOV | BCX | BJL | BLX | BQX | CIW | CLQ | CPX | HJV | HMW | IJM |
| ACL | AIN | AKX | AOW | BHI | BJM | BMN | BVW | CIX | CLV | CQV | HJW | HMX | IJN |
| ACM | AIO | ALM | AOX | BHJ | BJN | BMO | BVX | CJK | CLW | CQW | HJX | HNO | IJO |
| CAN | AIP | ALN | APQ | BHK | BJO | BMP | BWX | CJL | CLX | CQX | HKL | HNP | IJP |
| ACO | AIQ | ALO | APV | BHL | BJP | BMQ | CHI | CJM | CMN | CVW | HKM | HNQ | IJQ |
| ACP | AIV | ALP | APW | BHM | BJQ | BMV | CHJ | CJN | CMO | CVX | HKN | HNV | IJV |
| ACQ | AIW | ALQ | APX | BHN | BJV | BMW | CHK | CJO | CMP | CWX | HKO | HNW | IJW |
| ACV | AIX | ALV | AQV | BHO | BJW | BMX | CHL | CJP | CMQ | HIJ | HKP | HNX | IJX |

Marking codes for turtles:
3 scutes marked $=560$ individual marks (continued from previous page):

| IKL | INP | JKQ | JOP | KMP | KWX | LQX | NOP | PQV |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| IKM | INQ | JKV | JOQ | KMQ | LMN | LVW | NOQ | PQW |
| IKN | INV | JKW | JOV | KMV | LMO | LVX | NOV | PQX |
| IKO | INW | JKX | JOW | KMW | LMP | LWX | NOW | PVW |
| IKP | INX | JLM | JOX | KMX | LMQ | MNO | NOX | PVX |
| IKQ | IOP | JLN | JPQ | KNO | LMV | MNP | NPQ | PWX |
| IKV | IOQ | JLO | JPV | KNP | LMW | MNQ | NPV | QVW |
| IKW | IOV | JLP | JPW | KNQ | LMX | MNV | NPW | QVX |
| IKX | IOW | JLQ | JPX | KNV | LNO | MNW | NPX | QWX |
| ILM | IOX | JLV | JQV | KNW | LNP | MNX | NQV | VWX |
| ILN | IPQ | JLW | JQW | KNX | LNQ | MOP | NQW |  |
| ILO | IPV | JLX | JQX | KOP | LNV | MOQ | NQX |  |
| ILP | IPW | JMN | JVW | KOQ | LNW | MOV | NVW |  |
| ILQ | IPX | JMO | JVX | KOV | LNX | MOW | NVX |  |
| ILV | IQV | JMP | JWX | KOQ | LOP | MOX | NWX |  |
| ILW | IQW | JMQ | KLM | KOX | LOQ | MPQ | OPQ |  |
| ILX | IQX | JMV | KLN | KPQ | LOV | MPV | OPV |  |
| IMN | IVW | JMW | KLO | KPV | LOW | MPW | OPW |  |
| IMO | IVX | JMX | KLP | KPW | LOX | MPX | OPX |  |
| IMP | IWX | JNO | KLQ | KPX | LPQ | MQV | OQV |  |
| IMQ | JKL | JNP | KLV | KQV | LPV | MQW | OQW |  |
| IMV | JKM | JNQ | KLW | KQW | LPW | MQX | OQX |  |
| IMW | JKN | JNV | KLX | KQX | LPX | MVW | OVW |  |
| IMX | JKO | JNW | KMN | KVW | LQV | MVX | OVX |  |
| INO | JKP | JNX | KMO | KVX | LQW | MWX | OWX |  |

Marking codes for turtles:
4 scutes marked = 1,799 individual marks:

| ABCH | ABIJ | ABKP | ABNX | ACHV | ACKM | ACNQ | AHIP | AHLN | AHPQ | AIKQ | AIOP | AJLN | AJPQ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ABCI | ABIK | ABKQ | ABOP | ACHW | ACKN | ACNV | AHIQ | AHLO | AHPV | AIKV | AIOQ | AJLO | AJPV |
| ABCJ | ABIL | ABKV | ABOQ | ACHX | ACKO | ACNW | AHIV | AHLP | AHPW | AIKW | AIOV | AJLP | AJPW |
| ABCK | ABIM | ABKW | ABOV | ACIJ | ACKP | ACNX | AHIW | AHLQ | AHPX | AIKX | AIOW | AJLQ | AJPX |
| ABCL | ABIN | ABKX | ABOW | ACIK | ACKQ | ACOP | AHIX | AHLV | AHQV | AILM | AIOX | AJLV | AJQV |
| ABCM | ABIO | ABLM | ABOX | ACIL | ACKV | ACOQ | AHJK | AHLW | AHQW | AILN | AIPQ | AJLW | AJQW |
| ABCN | ABIP | ABLN | ABPQ | ACIM | ACKW | ACOV | AHJL | AHLX | AHQX | AILO | AIPV | AJLX | AJQX |
| ABCO | ABIQ | ABLO | ABPV | ACIN | ACKX | ACOW | АНJM | AHMN | AHVW | AILP | AIPW | AJMN | AJVW |
| ABCP | ABIV | ABLP | ABPW | ACIO | ACLM | ACOX | AHJN | AHMO | AHVX | AILQ | AIPX | AJMO | AJVX |
| ABCQ | ABIW | ABLQ | ABPX | ACIP | ACLN | ACPQ | АНЈO | AHMP | AHWX | AILV | AIQV | AJMP | AJWX |
| ABCV | ABIX | ABLV | ABQV | ACIQ | ACLO | ACPV | АHJP | AHMQ | AIJK | AILW | AIQW | AJMQ | AKLM |
| ABCW | ABJK | ABLW | ABQW | ACIV | ACLP | ACPW | AHJQ | AHMV | AIJL | AILX | AIQX | AJMV | AKLN |
| ABCX | ABJL | ABLX | ABQX | ACIW | ACLQ | ACPX | AHJV | AHMW | AIJM | AIMN | AIVW | AJMW | AKLO |
| ABHI | ABJM | ABMN | ABVW | ACIX | ACLV | ACQV | AHJW | AHMX | AIJN | AIMO | AIVX | AJMX | AKLP |
| ABHJ | ABJN | ABMO | ABVX | ACJK | ACLW | ACQW | AHJX | AHNO | AIJO | AIMP | AIWX | AJNO | AKLQ |
| ABHK | ABJO | ABMP | ABWX | ACJL | ACLX | ACQX | AHKL | AHNP | AIJP | AIMQ | AJKL | AJNP | AKLV |
| ABHL | ABJP | ABMQ | ACHI | ACJM | ACMN | ACVW | AHKM | AHNQ | AIJQ | AIMV | AJKM | AJNQ | AKLW |
| ABHM | ABJQ | ABMV | ACHJ | ACJN | ACMO | ACVX | AHKN | AHNV | AIJV | AIMW | AJKN | AJNV | AKLX |
| ABHN | ABJV | ABMW | ACHK | ACJO | ACMP | ACWX | AHKO | AHNW | AIJW | AIMX | AJKO | AJNW | AKMN |
| ABHO | ABJW | ABMX | ACHL | ACJP | ACMQ | AHIJ | AHKP | AHNX | AIJX | AINO | AJKP | AJNX | AKMO |
| ABHP | ABJX | ABNO | ACHM | ACJQ | ACMV | AHIK | AHKQ | AHOP | AIKL | AINP | AJKQ | AJOP | AKMP |
| ABHQ | ABKL | ABNP | ACHN | ACJV | ACMW | AHIL | AHKV | AHOQ | AIKM | AINQ | AJKV | AJOQ | AKMQ |
| ABHV | ABKM | ABNQ | ACHO | ACJW | ACMX | AHIM | AHKW | AHOV | AIKN | AINV | AJKW | AJOV | AKMV |
| ABHW | ABKN | ABNV | ACHP | ACJX | ACNO | AHIN | AHKX | AHOW | AIKO | AINW | AJKX | AJOW | AKMW |
| ABHX | ABKO | ABNW | ACHQ | ACKL | ACNP | AHIO | AHLM | AHOX | AIKP | AINX | AJLM | AJOX | AKMX |

Marking codes for turtles:
4 scutes marked $=1,799$ individual marks (continued from previous page):

| AKNO | ALNO | AMOQ | ANWX | BCHP | BCKN | BCOP | BHJM | BHMQ | BIJN | BIMV | BJKP | VJOV | BKNO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AKNP | ALNP | AMOV | AOPQ | BCHQ | BCKO | BCOQ | BHJN | BHMV | BIJO | BIMW | BJKQ | BJOW | BKNP |
| AKNQ | ALNQ | AMOW | AOPV | BCHV | BCKP | BCOV | ВНJO | BHMW | BIJP | BIMX | BJKV | BJOX | BKNQ |
| AKNV | ALNV | AMOX | AOPW | BCHW | BCKQ | BCOW | BHJP | BHMX | BIJQ | BINO | BJKW | BJPQ | BKNV |
| AKNW | ALNW | AMPQ | AOPX | BCHX | BCKV | BCOX | BHJQ | BHNO | BIJV | BINP | BJKX | BJPV | BKNW |
| AKNX | ALNX | AMPV | AOQV | BCIJ | BCKW | BCPQ | BHJV | BHNP | BIJW | BINQ | BJLM | BJPW | BKNX |
| AKOP | ALOP | AMPW | AOQW | BCIK | BCKX | BCPV | BHJW | BHNQ | BIJX | BINV | BJLN | BJPX | BKOP |
| AKOQ | ALOQ | AMPX | AOQX | BCIL | BCLM | BCPW | BHJX | BHNV | BIKL | BINW | BJLO | BJQV | BKOQ |
| AKOV | ALOV | AMQV | AOVW | BCIM | BCLN | BCPX | BHKL | BHNW | BIKM | BINX | BJLP | BJQW | BKOV |
| AKOW | ALOW | AMQW | AOVX | BCIN | BCLO | BCQV | BHKM | BHNX | BIKN | BIOP | BJLQ | BJQX | BKOW |
| AKOX | ALOX | AMQX | AOWX | BCIO | BCLP | BCQW | BHKN | BHOP | BIKO | BIOQ | BJLV | BJVW | BKOX |
| AKPQ | ALPQ | AMVW | APQV | BCIP | BCLQ | BCQX | BHKO | BHOQ | BIKP | BIOV | BJLW | BJVX | BKPQ |
| AKPV | ALPV | AMVX | APQW | BCIQ | BCLV | BCVW | BHKP | BHOV | BIKQ | BIOW | BJLX | BJWX | BKPV |
| AKPW | ALPW | AMWX | APQX | BCIV | BCLW | BCVX | BHKQ | BHOW | BIKV | BIOX | BJMN | BKLM | BKPW |
| AKPX | ALPX | ANOP | APVW | BCIW | BCLX | BCWX | BHKV | BHOX | BIKW | BIPQ | BJMO | BKLN | BKPX |
| AKQV | ALQV | ANOQ | APVX | BCIX | BCMN | BHIJ | BHKW | BHPQ | BIKX | BIPV | BJMP | BKLO | BKQV |
| AKQW | ALQW | ANOV | APWX | BCJK | BCMO | BHIK | BHKX | BHPV | BILM | BIPW | BJMQ | BKLP | BKQW |
| AKQX | ALQX | ANOW | AQVW | BCJL | BCMP | BHIL | BHLM | BHPW | BILN | BIPX | BJMV | BKLQ | BKQX |
| AKVW | ALVW | ANOX | AQVX | BCJM | BCMQ | BHIM | BHLN | BHPX | BILO | BIQV | BJMW | BKLV | BKVW |
| AKVX | ALWX | ANPQ | AQWX | BCJN | BCMV | BHIN | BHLO | BHQV | BILP | BIQW | BJMX | BKLW | BKVX |
| AKWX | ALWX | ANPV | AVWX | BCJO | BCMW | BHIO | BHLP | BHQW | BILQ | BIQX | BJNO | BKLX | BKWX |
| ALMN | AMNO | ANPW | BCHI | BCJP | BCMX | BHIP | BHLQ | BHQX | BILV | BIVW | BJNP | BKMN | BLMN |
| ALMO | AMNP | ANPX | ВСНJ | BCJQ | BCNO | BHIQ | BHLV | BHVW | BILW | BIVX | BJNQ | BKMO | BLMO |
| ALMP | AMNQ | ANQV | BCHK | BCJV | BCNP | BHIV | BHLW | BHVX | BILX | BIWX | BJNV | BKMP | BLMP |
| ALMQ | AMNV | ANQW | BCHL | BCJW | BCNQ | BHIW | BHLX | BHWX | BIMN | BJKL | BJNW | BKMQ | BLMQ |
| ALMV | AMNW | ANQX | BCHM | BCJX | BCNV | BHIX | BHMN | BIJK | BIMO | BJKM | BJNX | BKMV | BLMV |
| ALMW | AMNX | ANVW | BCHN | BCKL | BCNW | BHJK | BHMO | BIJL | BIMP | BJKN | BJOP | BKMW | BLMW |
| ALMX | AMOP | ANVX | BCHO | BCKM | BCNX | BHJL | BHMP | BIJM | BIMQ | BJKO | BJOQ | BKMX | BLMX |

Marking codes for turtles:
4 scutes marked $=1,799$ individual marks (continued from previous pages):

| BLNO | BNOQ | BPVX | CHKM | CHNX | CIKN | CIOP | CJLQ | CJQX | CKOW | CLOW | CMQW | CPVX | HIKV |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BLNP | BNOV | BPWX | CHKN | CHOP | CIKO | CIOQ | CJLV | CJVW | CKOX | CLOX | CMQX | CPWX | HIKW |
| BLNQ | BNOW | BQVW | CHKO | CHOQ | CIKP | CIOV | CJLW | CJVX | CKPQ | CLPQ | CMVW | CQVW | HIKX |
| BLNV | BNOX | BQVX | CHKP | CHOV | CIKQ | CIOW | CJLX | CJWX | CKPV | CLPV | CMVX | CQVX | HILM |
| BLNW | BNPQ | BQWX | CHKQ | CHOW | CIKV | CIOX | CJMN | CKLM | CKPW | CLPW | CMWX | CQWX | HILN |
| BLNX | BNPV | BVWX | CHKV | CHOX | CIKW | CIPQ | CJMO | CKLN | CKPX | CLPX | CNOP | CVWX | HILO |
| BLOP | BNPW | CHIJ | CHKW | CHPQ | CIKX | CIPV | CJMP | CKLO | CKQV | CLQV | CNOQ | CPVX | HILP |
| BLOQ | BNPX | CHIK | CHKX | CHPV | CILM | CIPW | CJMQ | CKLP | CKQW | CLQW | CNOV | CPWX | HILQ |
| BLOV | BNQV | CHIL | CHLM | CHPW | CILN | CIPX | CJMV | CKLQ | CKQX | CLQX | CNOW | CQVW | HILV |
| BLOW | BNQW | CHIM | CHLN | CHPX | CILO | CIQV | CJMW | CKLV | CKVW | CLVW | CNOX | CQVX | HILW |
| BLOX | BNQX | CHIN | CHLO | CHQV | CILP | CIQW | CJMX | CKLW | CKVX | CLVX | CNPQ | CQWX | HILX |
| BLPQ | BNVW | CHIO | CHLP | CHQW | CILQ | CIQX | CJNO | CKLX | CKWX | CLWX | CNPV | CVWX | HIMN |
| BLPV | BNVX | CHIP | CHLQ | CHQX | CILV | CIVW | CJNP | CKMN | CLMN | CMNO | CNPW | H JJK | HIMO |
| BLPW | BNWX | CHIQ | CHLV | CHVW | CILW | CIVX | CJNQ | CKMO | CLMO | CMNP | CNPX | HIJL | HIMP |
| BLPX | BOPQ | CHIV | CJLW | CHVX | CILX | CIWX | CJNV | CKMP | CLMP | CMNQ | CNQV | HIJM | HIMQ |
| BLQV | BOPV | CHIW | CHLX | CHWX | CIMN | CJKL | CJNW | CKMQ | CLMQ | CMNV | CNQW | HIJN | HIMV |
| BLQW | BOPW | CHIX | CHMN | CIJK | CIMO | CJKM | CJNX | CKMV | CLMV | CMNW | CNQX | HIJO | HIMW |
| BLQX | BOPX | CHJK | CHMO | CIJL | CIMP | CJKN | CJOP | CKMW | CLMW | CMNX | CNVW | H!JP | HIMX |
| BLVW | BOQV | CHJL | CHMP | CIJM | CIMQ | CJKO | CJOQ | CKMX | CLMX | CMOP | CNVX | HIJQ | HINO |
| BLVX | BOQW | CHJM | CHMQ | CIJN | CIMV | СЈKP | CJOV | CKNO | CLNO | CMOQ | CNWX | HIJV | HINP |
| BLWX | BOQX | CHJN | CHMV | CIJO | CIMW | CJKQ | CJOW | CKNP | CLNP | CMOV | COPQ | HIJW | HINQ |
| BMNO | BOVW | СНJO | CHMW | CIJP | CIMX | CJKV | CJOX | CKNQ | CLNQ | CMOW | COPV | HIJX | HINV |
| BMNP | BOVX | CHJP | CHMX | CIJQ | CINO | CJKW | CJPQ | CKNV | CLNV | CMOX | COPW | HIKL | HINW |
| BMNQ | BOWX | CHJQ | CHNO | CIJV | CINP | CJKX | CJPV | CKNW | CLNW | CMPQ | COPX | HIKM | HINX |
| BMNV | BPQV | CHJV | CHNP | CIJW | CINQ | CJLM | CJPW | CKNX | CLNX | CMPV | CPQV | HIKN | HIOP |
| BMNW | BPQW | CHJW | CHNQ | CIJX | CINV | CJLN | CJPX | CKOP | CLOP | CMPW | CPQW | HIKO | HIOQ |
| BMNX | BPQX | CHJX | CHNV | CIKL | CINW | CJLO | CJQV | CKOQ | CLOQ | CMPX | CPQX | HIKP | HIOV |
| BNOP | BPVW | CHKL | CHNW | CIKM | CINX | CJLP | CJQW | CKOV | CLOV | CMQV | CPVW | HIKQ | HIOW |

Marking codes for turtles:
4 scutes marked $=1,799$ individual marks (continued from previous pages):

| HIOX | HJMN | HKLM | HKPW | HLPW | HMWX | HPQX | IJMQ | IKLP | IKQW | ILQW | INOV | IPWX | JKOV |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HIPQ | НЈМО | HKLN | HKPX | HLPX | HNOP | HPVW | IJMV | IKLQ | IKQX | ILQX | INOW | IQVW | JKOW |
| HIPV | HJMP | HKLO | HKQV | HLQV | HNOQ | HPVX | IJMW | IKLV | IKVW | ILVW | INOX | IQVX | JKOX |
| HIPW | HJMQ | HKLP | HKQW | HLQW | HNOV | HPWX | IJMX | IKLW | IKVX | ILVX | INPQ | IQWX | JKPQ |
| HIPX | HJMV | HKLQ | HKQX | HLQX | HNOW | HQVW | IJNO | IKLX | IKWX | ILWX | INPV | IVWX | JKPV |
| HIQV | HJMW | HKLV | HKVW | HLVW | HNOX | HQVX | IJNP | IKMN | ILMN | IMNO | INPW | JKLM | JKPW |
| HIQW | HJMX | HKLW | HKVX | HLVX | HNPQ | HQWX | IJNQ | IKMO | ILMO | IMNP | INPX | JKLN | JKPX |
| HIQX | HJNO | HKLX | HKWX | HLWX | HNPV | HVWX | IJNV | IKMP | ILMP | IMNQ | INQV | JKLO | JKQV |
| HIVW | HJNP | HKMN | HLMN | HMNO | HNPW | IJKL | IJNW | IKMQ | ILMQ | IMNV | INQW | JKLP | JKQW |
| HIVX | HJNQ | HKMO | HLMO | HMNP | HNPX | IJKM | IJNX | IKMV | ILMV | IMNW | INQX | JKLQ | JKQX |
| HIWX | HJNV | HKMP | HLMP | HMNQ | HNQV | IJKN | IJOP | IKMW | ILMW | IMNX | INVW | JKLV | JKVW |
| HJKL | HJNW | HKMQ | HLMQ | HMNV | HNQW | IJKO | IJOQ | IKMX | ILMX | IMOP | INVX | JKLW | JKVX |
| НЈКМ | HJNX | HKMV | HLMV | HMNW | HNQX | IJKP | IJOV | IKNO | ILNO | IMOQ | INWX | JKLX | JKWX |
| HJKN | HJOP | HKMW | HLMW | HMNX | HNVW | IJKQ | IJOW | IKNP | ILNP | IMOV | IOPQ | JKMN | JLMN |
| НЈКО | HJOQ | HKMX | HLMX | HMOP | HNVX | IJKV | IJOX | IKNQ | ILNQ | IMOW | IOPV | JKMO | JLMO |
| HJKP | HJOV | HKNO | HLNO | HMOQ | HNWX | IJKW | IJPQ | IKNV | ILNV | IMOX | IOPW | JKMP | JLMP |
| HJKQ | HJOW | HKNP | HLNP | HMOV | HOPQ | IJKX | IJPV | IKNW | ILNW | IMPQ | IOPX | JKMQ | JLMQ |
| HJKV | HJOX | HKNQ | HLNQ | HMOW | HOPV | IJLM | IJPW | IKNX | ILNX | IMPV | IOQV | JKMV | JLMV |
| HJKW | HJPQ | HKNV | HLNV | HMOX | HOPW | IJLN | IJPX | IKOP | ILOP | IMPW | IOQW | JKMW | JLMW |
| HJKX | HJPV | HKNW | HLNW | HMPQ | HOPX | IJLO | IJQV | IKOQ | ILOQ | IMPX | IOQX | JKMX | JLMX |
| HJLM | HJPW | HKNX | HLNX | HMPV | HOQV | IJLP | IJQW | IKOV | ILOV | IMQV | IOVW | JKNO | JLNO |
| HJLN | HJPX | HKOP | HLOP | HMPW | HOQW | IJLQ | IJQX | IKOW | ILOW | IMQW | IOVX | JKNP | JLNP |
| HJLO | HJQV | HKOQ | HLOQ | HMPX | HOQX | IJLV | IJVW | IKOX | ILOX | IMQX | IOWX | JKNQ | JLNQ |
| HJLP | HJQW | HKOV | HLOV | HMQV | HOVW | IJLW | IJVX | IKPQ | ILPQ | IMVW | IPQV | JKNV | JLNV |
| HJLQ | HJQX | HKOW | HLOW | HMQW | HOVX | IJLX | IJWX | IKPV | ILPV | IMVX | IPQW | JKNW | JLNW |
| HJLV | HJVW | HKOX | HLOX | HMQX | HOWX | IJMN | IKLM | IKPW | ILPW | IMWX | IPQX | JKNX | JLNX |
| HJLW | HJVX | HKPQ | HLPQ | HMVW | HPQV | IJMO | IKLN | IKPX | ILPX | INOP | IPVW | JKOP | JLOP |
| HJLX | HJWX | HKPV | HLPV | HMVX | HPQW | IJMP | IKLO | IKQV | ILQV | INOQ | IPVX | JKOQ | JLOQ |

Marking codes for turtles:
4 scutes marked $=1,799$ individual marks (continued from previous pages):

| JLOV | JMQV | JOVW | KLOV | KMQV | KOVW | LMQV | LOVW | MOPQ | NOVX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JLOW | JMQW | JOVX | KLOW | KMQW | KOVX | LMQW | LOVX | MOPV | NOWX |
| JLOX | JMQX | JOWX | KLOX | KMQX | KOWX | LMQX | LOWX | MOPW | NPQV |
| JLPQ | JMVW | JPQV | KLPQ | KMVW | KPQV | LMVW | LPQV | MOPX | NPQW |
| JLPV | JMVX | JPQW | KLPV | KMVX | KPQW | LMVX | LPQW | MOQV | NPQX |
| JLPW | JMWX | JPQX | KLPW | KMWX | KPQX | LMWX | LPQX | MOQW | NPVW |
| JLPX | JNOP | JPVW | KLPX | KNOP | KPVW | LNOP | LPVW | MOQX | NPVX |
| JLQV | JNOQ | JPVX | KLQV | KNOQ | KPVX | LNOQ | LPVX | MOVW | NPWX |
| JLQW | JNOV | JPWX | KLQW | KNOV | KPWX | LNOV | LPWX | MOVX | NQVW |
| JLQX | JNOW | JQVW | KLQX | KNOW | KQVW | LNOW | LQVW | MOWX | NQVX |
| JLVW | JNOX | JQVX | KLVW | KNOX | KQVX | LNOX | LQVX | MPQV | NQWX |
| JLVX | JNPQ | JQWX | KLVX | KNPQ | KQWX | LNPQ | LQWX | MPQW | NVWX |
| JLWX | JNPV | JVWX | KLWX | KNPV | KVWX | LNPV | LVWX | MPQX | OPQV |
| JMNO | JNPW | KLMN | KMNO | KNPW | LMNO | LNPW | MNOP | MPVW | OPQW |
| JMNP | JNPX | KLMO | KMNP | KNPX | LMNP | LNPX | MNOQ | MPVX | OPQX |
| JMNQ | JNQV | KLMP | KMNQ | KNQV | LMNQ | LNQV | MNOV | MPWX | OPVW |
| JMNV | JNQW | KLMQ | KMNV | KNQW | LMNV | LNQW | MNOW | MQVW | OPVX |
| JMNW | JNQX | KLMV | KMNW | KNQX | LMNW | LNQX | MNOX | MQVX | OPWX |
| JMNX | JNVW | KLMW | KMNX | KNVW | LMNX | LNVW | MNPQ | MQWX | OQVW |
| JMOP | JNVX | KLMX | KMOP | KNVX | LMOP | LNVX | MNPV | MVWX | OQVX |
| JMOQ | JNWX | KLNO | KMOQ | KNWX | LMOQ | LNWX | MNPW | NOPQ | OQWX |
| JMOV | JOPQ | KLNP | KMOV | KOPQ | LMOV | LOPQ | MNPX | NOPV | OVWX |
| JMOW | JOPV | KLNQ | KMOW | KOPV | LMOW | LOPV | MNQV | NOPW | PQVW |
| JMOX | JOPW | KLNV | KMOX | KOPW | LMOX | LOPW | MNQW | NOPX | PQVX |
| JMPQ | JOPX | KLNW | KMPQ | KOPX | LMPQ | LOPX | MNQX | NOQV | PQWX |
| JMPV | JOQV | KLNX | KMPV | KOQV | LMPV | LOQV | MNVW | NOQW | PVWX |
| JMPW | JOQW | KLOP | KMPW | KOQW | LMPW | LOQW | MNVX | NOQX | QVWX |
| JMPX | JOQX | KLOQ | KMPX | KOQX | LMPX | LOQX | MNWX | NOVW |  |

## HERPETOFAUNA PHOTO VOUCHERING

The following is adapted from a chapter in the forthcoming PARC herpetofauna Inventory and Monitoring Techniques book, edited by Gabrielle Grater and Kurt Bulhmann of the Savanna River Ecology Lab. The photo vouchering chapter was compiled by John Jensen with the Georgia Department of Natural Resources.

The purpose of photo vouchering is to provide evidence that a species occurs in a given area. This is necessary to ensure confidence in reported records and to ensure that the sightings are accurate. For some species, photo records may not be adequate for vouchers. In these situations, a voucher specimen may be needed. Iowa's amphibians are distinct enough from each other that they can be vouchered with high quality photography, with one exception. The gray treefrogs (Hyla versicolor and H. chrysoscelis) can only be distinguished by DNA chromosomal analysis or by the sound of their calls with $H$. chrysoscelis having a call with a higher pitch. It is recommended that if vouchering of these species in needed, a recording be made of their calls. It should be possible to document all of Iowa's reptiles with photographs if the objective is only to document the occurrence of a species at a given site.

## DEFINITIONS:

Anal plate - The wide scale anterior to the anus.
Dorsal - Of or involving the back.
Dorsolateral - Of or involving both the back and the side.
Keeled - A ridge down the center of the scale, resulting in a rough or dull appearance.
Lateral - Of or involving the side.
Ventral - Of or involving the abdomen.

## BASIC GUIDELINES:

1. Include a scale in the photo (or at least some of the photos of the same individual) such as a ruler, coin, pencil, or human hand.
2. Photograph animal as soon after capture as possible - some amphibians can change color when placed into containers.
3. It may be easier or necessary to place a frog or salamander into a Ziploc baggie. This will help immobilize the animal. The photo can be made through the clear plastic of the baggie. Be sure to include a small amount of water in the baggie so the amphibian does not desiccate and do NOT leave the animal in the baggie for more than a few minutes at most.

A whole body shot should be taken of each individual to be photo vouchered. This first, standard photo should be at a dorsal angle (looking at the back of the individual). In addition to this photo, several additional photos will be needed depending on the species. Most field guides describe the characteristics that will be seen (or absent) from each of the photo angles. If the field guide lists a defining characteristic that is not accounted for in the lists for each group of animals below, please also photograph the presence or absence of that characteristic.

## SALAMANDERS:

For the 5 salamander species which occur in Iowa, all should have an additional photo taken which clearly shows the whole body from a dorsolateral angle. For 4 of the 5 species, clear, high definition photos from those 2 angles should be sufficient for identification. The mudpuppy (Necturus maculosus), however, should also have the belly photographed.

## ANURANS:

Frogs
The following list of 6 additional photos should be taken to voucher the Rana species listed by the photo angle. Rana of unknown species or those found outside of their known range should have photos taken from all of the following angles:

1. Dorsal showing the full extent of the dorsolateral ridges ( $R$. blairi, $R$. pipiens, R. utricularia)
2. Dorsolateral (All Rana species)
3. Head - dorsal (R. catesbeiana)
4. Head - lateral (R. pipiens, R. sphenocephala)
5. Toe webbing (R. catesbeiana, R. clamitans)
6. Ventral or belly (R. palustris)
*Suspected wood frogs (R. sylvatica) should have all of the above photos taken.

## Treefrogs

The following list of additional photos should be taken to voucher treefrog species listed by each angle. Treefrog species have toe-pads. If you are unsure of which treefrog species is in hand, please take photos of all the following angles:

1. Back of thigh (Acris crepitans, Hyla chrysoscelis, H. versicolor)
2. Dorsolateral (H. chrysoscelis, H. versicolor, Pseudacris crucifer, $P$. triseriata)
3. Head - dorsal (A. crepitans)
4. Toe webbing (A. crepitans)
*Remember that the only way to distinguish between H. chrysoscelis and $H$. versicolor in the field is by the sound of their calls. If it is necessary to voucher these species from a particular site, a recording of their calls must be made.

## Toads

The following list of additional photos should be taken for each of Iowa's 4 toad species in order to voucher the species presence for a given site.

1. Head - dorsal
2. Dorsolateral
3. Number of warts occurring per spot (the photo should be a close-up of several spots where the number of warts can be clearly counted)
4. Ventral

## Spadefoot toad

There is only one species of spadefoot toad known to occur in Iowa. In addition to the lateral photo for this species, additional photos showing the eyes and/or the spade on the back foot would clearly voucher this species.

## SNAKES:

## Nonvenomous Snakes

For all nonvenomous snakes, a dorsolateral photo should be taken in addition to that of the lateral angle. It is also suggested to photograph both the ventral side and the anal plate of many of the species in Iowa. These 4 photos should be sufficient to document the majority of the nonvenomous species with a few exceptions:

1. Additional dorsolateral photo, close enough to be able to count the rows of scales with striping above the ventral scales (Thamnophis sp.)
2. Head - dorsal (Virginia valeriae)
3. Head - lateral (Heterodon sp.)
4. Photograph showing the keeled or lack of keeled scales (Opheodrys aestivus \& $O$. vernalis)

## Venomous Snakes

It is not recommended to handle a venomous snake without the proper training on the appropriate handling techniques. Take the best photo possible without endangering yourself. The dorsal pattern on Iowa's 4 venomous snakes is distinct enough to allow identification. This picture can be taken without touching the animal. Remember to keep an appropriate distance from the snake at all times.

## LIZARDS:

Iowa has 5 lizards. Photographs of the dorsolateral angle should be taken of each of them in addition to the dorsal photo. In addition, the slender glass lizard (Ophisaurus attenuatus) should be photographed from the lateral angle, and the 3 skink species (Eumeces fasciatus, $\boldsymbol{E}$. obsoletus, and E. septentrionalis) should be documented from the lateral side of the head, specifically focusing on the ear area, and the lateral side of the tail.

## TURTLES:

All of Iowa's turtles should have photographs of the dorsolateral side and the ventral side (also known as the plastron in turtles) taken in addition to the dorsal photograph. Other suggested photos include:

1. Head - dorsal (Graptemys geographica, \& G. pseudogeographica)
2. Head - lateral (Clemmys insculpta, Emydoidea blandingi, Kinosternon flavescens, Sternotherus odoratus, \& Trachemys scripta)
3. Leading (neck) edge of carapace (Apalone mutica \& A. spinifera)
4. Nostrils (A. mutica \& A. spinifera)
