

## V. Appendices

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## Appendix A – Preliminary Results/Discussion of Analysis and Interpretation

Since pilot development, the protocol has been applied throughout R5, using the “final draft” protocols. Unpublished data from three applications are worthy of note. In the first, comparison of attributes from stream reaches in “reference” and “treated” watersheds was made. Streams were stratified into two stream types (response and transport). These comparisons found significant differences ( $p=.05$ ) between the two treatment types in response streams for most attributes tested, and in transport streams for all attributes except bankfull width/depth. A summary of these comparisons is shown in Table 1.

Table 1

Attribute	Response		Significant Difference (.05)	Transport		Significant Difference (.05)
	Ref mean	Non Ref Mean		Ref mean	Non Ref Mean	
Surface Fines (mean %)	19.3	26.5	0.12	12.1	20.1	YES
Shade (mean %)	43.4	39.3	0.23	67.4	53.6	YES
Stability (% stable)	75.3	52.9	YES	80.9	55.5	YES
% <2mm	15.6	21.7	0.08	6.5	15.8	YES
W/D ratio	16.9	26.6	YES	19.4	20.1	0.43
Bank Angle (mean %)	112.4	131.4	YES	NA	NA	
Streamshore Water Depth (mean cm)	0.18	0.06	YES	NA	NA	

Table 1: Results of t-test comparisons of SCI data collected from SCI pilot development, Sierra Monitoring Development, and Forest Health Pilot Monitoring (Plumas, Lassen, and Tahoe NFs).

A similar approach was applied during pilot testing for the Sierra Province Aquatic Monitoring Plan developed in conjunction with the Sierra Framework. Forty-four treatment and reference streams were sampled in 1997. SCI has also been applied to monitoring of streams in conjunction with the Herger-Feinstein Quincy Library Group Plan (QLG) on the Tahoe, Plumas and Lassen National Forests. Preliminary work from this effort showed significant differences between streams from Westside, “Transition” and Eastside zones on the three forests for most channel attributes. Differences between QLG response streams and R5 reference streams were much greater than differences between transport streams. An example of results from this analysis is shown in Figure 1. This same program showed significant differences between streams burned by wildfire on the Tahoe NF and nearby reference streams. Results from comparison of pool tail fines are shown in Figure 2.

**Width to Depth Ratio  
FHP Response Vs. R5 Reference Response**

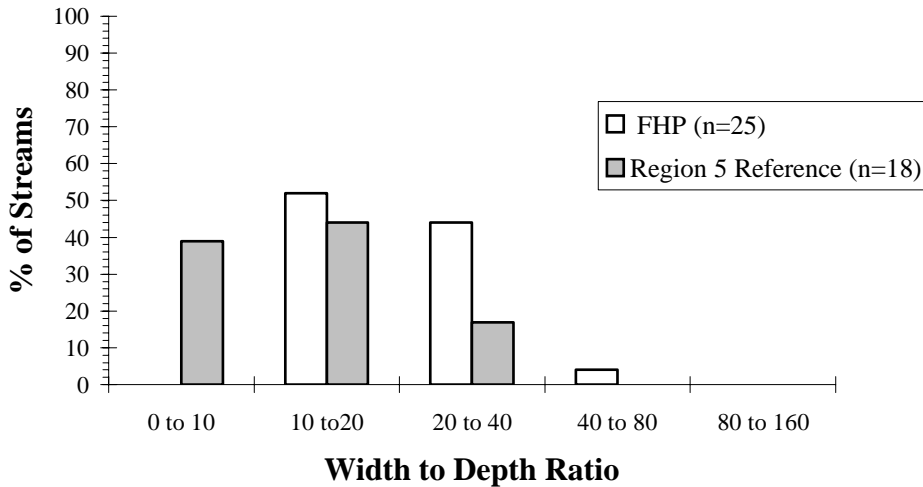


Figure 1 - Comparison of SCI data (Width-to-depth ratios) from Forest Health Pilot Response streams (Plumas, Lassen, and Tahoe NFs) and Region 5 Reference Response Streams

**Cottonwood Fire Comparison  
Pool Tail Surface Fines  
Transport Reaches**



Figure 2 - SCI data comparison of Pool Tail Surface Fines for transport reaches within the Cottonwood Fire against R5 reference and FHP streams.

**Data Analysis and Interpretation:**

SCI data can be collected to meet a variety of objectives. Those objectives will determine the type of analysis. These questions can range from comparison data collected from a single site over time (before and after implementation of a management practice, for instance), to comparison of data from sites with different levels of management, to data collected from reference streams. In all cases, interpretation of data should consider both spatial and temporal variability. Stream systems are dynamic and change over time. For this reason, it is a good idea to evaluate changes in reference streams along with changes in any before and after comparisons. If the references are similar in terms of their ecological characteristics (catchment size, elevation, channel type, etc.) and have been sampled over the same time period as “treatment” streams, they provide a means of gauging what degree of change might be expected in the treatment streams, apart from any management affect.

In interpreting changes over time, it is also important to consider whether or not “triggering” events have occurred over the time period of the monitoring. For instance, if the objective of monitoring is to assess the impact of stream crossing improvements, the response from the crossings to the channels would probably not be expected until a large flow event had occurred.

Also, consider the degree to which attributes are influenced by environmental factors, and consider these in data interpretation. For instance, channel width-depth is strongly influenced by catchment size, so comparison of w/d ratios for any two sites without consideration of drainage area is problematic. In this case, one approach might be to compare basin size versus w/d ratio for reference streams with similar ecological characteristics, and then see how well individual “treatment” streams follow the reference stream relationship. An example of this type of comparison is shown in Figure 3. Other attributes that are strongly influenced by catchment size are pool depth and substrate size.

### Residual Pool Depth vs Basin Size

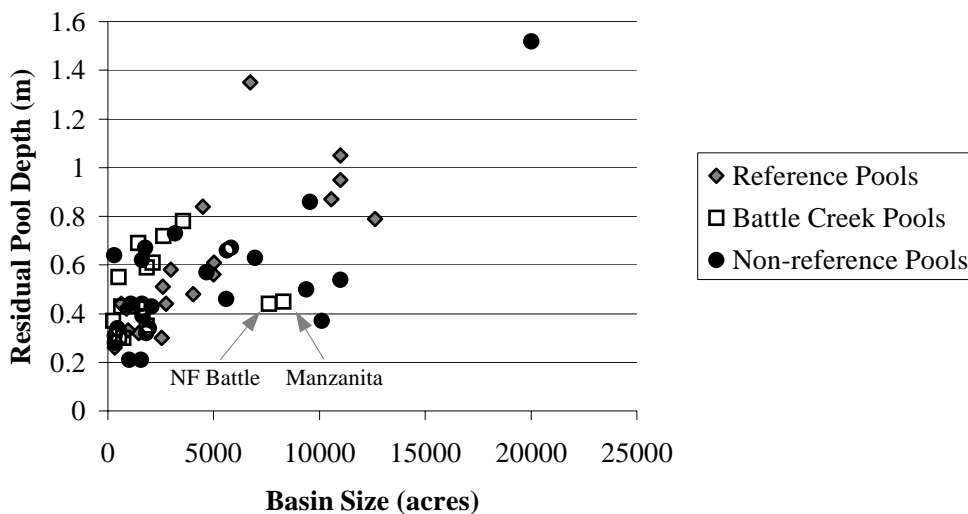


Figure 3 - Plot of residual pool depth against basin size for R5 reference transport channels, R5 non-reference transport channels, and transport channels in upper Battle Creek (Lassen NF).

Another consideration is to recognize the limitation of any single attribute. SCI collects data on numerous attributes, partly in recognition that each by itself is weak analytically. Interpretation then, should follow a weight of evidence type approach. The practical significance of findings should be evaluated in terms of the entire data set. It is likely that some attributes will show greater (or less) differences than others. Are differences trending in the same “direction”? For instance if width-to-depth ratios increase, one would also expect an increase in bank angle. If both trend in the same direction, there is more credence to the change than if they trended in “opposite” directions.

The key to interpretation is found back in plan design. Outline the expected responses and attributes to be used as indicators of those responses. For example, SCI is applied to monitor the effectiveness of a revised range management strategy in improving channel morphology and fish habitat. The expected outcomes might be decreased bank angle and width-to-depth ratio, increased bank stability and stream shade, and deeper pools. After implementation of the new strategy, data analysis should focus on these attributes.

## **Appendix B – Equipment List**

### **Standard equipment (for most protocols)**

- SCI Protocol and data forms
- Clipboard and field notebook
- Copy of prior SCI survey of same reach (if applicable)
- 7.5' USGS Quadrangle Maps or other maps depicting survey area
- GPS unit to identify applicable survey locations
- Wading boots or waders
- 100m measurement tape
- 50m measurement tape
- Flagging
- Pencils/markers
- Camera (film if needed)
- Gravelometer, ruler
- Depth rods (m)
- Hip chain and string
- Tally whacker (LWD count)
- Fence posts or rebar (permanent x-section markers)
- Spray paint
- Level rod (m)
- Transit level with tripod
- Hand level
- String/string level
- Engineering survey flags (bankfull, x-section candidate sites, etc.)
- Clamps to connect measuring tape to stakes
- Pool tail fines grid
- View tube or mask
- Solar pathfinder
- Clinometer

### **Macroinvertebrate sampling equipment**

#### General:

- Field data forms/ clipboard
- Field notebooks
- GPS unit to identify sampling location
- Permanent markers, pencils
- Wading boots/ waders
- Pump sprayer and wash bottles for washing insects and algae off rocks, pans, and nets
- 7.5' USGS Quadrangle Maps or other maps depicting sampling location
- Camera

Invertebrates:

- 10-sided die or digital watch for generating random sample locations
- 0.09 m<sup>2</sup> Surber or D-frame sampler with 500µm mesh net (net should be ~ 1m)
- 14 liter bucket
- White plastic wash tub
- Two 500µl plastic sample jars
- Small spoons (2) for transferring samplings to jars
- Forceps (2 pairs)
- Labeling materials (preprinted Rite-in-the-Rain™ labels)
- Buffered (CaCo3) Formalin or 95% EtOH
- Trowel

Water Chemistry and Temperature

- Conductivity meter
- Field alkalinity test kit

Physical Attributes:

- 100m measurement tape
- Gravelometer or ruler to measure substrate size

## **Appendix C – Cleaning Survey Equipment**

### **Introduction**

The purpose of this appendix is (1) to provide stream surveyors with awareness of invasive species and pathogens associated with stream surveys and (2) to introduce general protocols to manage the risks associated with introducing them to or transporting them within aquatic or terrestrial ecosystems.

The goal of this appendix is to help reduce the risk of introduction or spread of unwanted species or pathogens. The number of invasive species and pathogens may change over time and risk management protocols may vary by location within the region. It is beyond the scope of this appendix to describe or anticipate all problems and mitigations throughout the Pacific Southwest Region. Stream surveyors should check locally for specific problem identification and cleaning protocols.

### **Pathogens and Invasive Species**

Several known pathogens in the region may be transported by stream surveyors. These include multiple fungi species that can lead to Port Orford cedar root rot, sudden oak death syndrome (SODS), and may lead to chytridiomycosis in certain amphibians. In addition, one aquatic invasive animal species and numerous terrestrial and aquatic plants are capable of being spread by stream surveyors. The New Zealand mud snail is expanding its range in the region and has become very problematic. Plant species are too numerous to mention and vary locally. One common invasive plant, Yellow starthistle, is currently widespread throughout the region.

### **Vectors**

Stream surveyors, their equipment and vehicles can readily serve as vectors for pathogens and invasive species. Surveyors can transport fungus, plants, and insects on field equipment, clothing, boots and even by skin contact in some cases. Surveyor's vehicles can also introduce or spread invasive species or pathogens when traveling to or from field sites. Some pathogens and invasive species may be encountered outside of the stream environment and transported elsewhere. For example, some fungus species and many invasive plants are terrestrial and may be contacted while walking to a stream.

There may not be a risk of introduction or spread of pathogens or invasive species everywhere in the region. Check locally. Wherever a risk exists, stream surveyors should take appropriate risk management procedures.

### **General Cleaning Protocols**

The guidelines below are intended as general recommendations for cleaning items that may introduce or spread pathogens or invasive species. Specific procedures such as cleaning frequency, duration, and washing chemicals should be determined by consulting local protocols.

See general cleaning protocols on the next page.

## General Cleaning Protocols for Stream Survey Field Equipment

Cleaning Activity	Survey Equipment	Vehicles	Notes
What items to clean	<ul style="list-style-type: none"> <li>All survey gear that has been exposed to hazards – in and out of water</li> <li>Clothing, skin, fingernails, etc. (when entering next watershed* without bathing)</li> </ul>	All vehicles that have been used for ingress and egress	
When and where to clean items	<ul style="list-style-type: none"> <li>Upon return to the duty station, or</li> <li>On site in the watershed if not returning to the duty station before surveying the next watershed</li> </ul>	Same as survey equipment	Proper vehicle cleaning may not be feasible in remote field areas. Be aware that proper cleaning may be needed before entering the next watershed.
How to clean items	<ul style="list-style-type: none"> <li>Scrub gear that has gathered soil or organic debris</li> <li>Disinfect gear to local protocol standard (bleach or Quat-128 solution are common treatments)</li> <li>Dry gear sufficiently</li> </ul>	<ul style="list-style-type: none"> <li>Inspect all parts of vehicles that may have collected mud, weed seeds, etc.</li> <li>Wash thoroughly, preferably with a high pressure hose such as at a duty station or commercial car wash</li> </ul>	

\* The term “next watershed” is relative to the scale of surveys and the risk of introduction or transport of pathogens or invasive species. For example, cleaning needs may vary from between stream reaches to watersheds of ten or more thousands of hectares. Check locally for risk and scale.

### References

USDA/USDI 2004



## Appendix D – Random Number Table

13962	70992	65172	28053	02190	83634	66012	70305	66761	88344
43905	46941	72300	11641	43548	30455	07686	31840	03261	89139
00504	48658	38051	59408	16508	82979	92002	63606	41078	86326
61274	57238	47267	35303	29066	02140	60867	39847	50968	96719
43753	21159	16239	50595	62509	61207	86816	29902	23395	72640
83503	51662	21636	68192	84294	38754	84755	34053	94582	29215
36807	71420	35804	44862	23577	79551	42003	58684	09271	68396
19110	55680	18792	41487	16614	83053	00812	16749	45347	88199
82615	86984	93290	87971	60022	35415	20852	02909	99476	45568
05621	26584	36493	63013	68181	57702	49510	75304	38724	15712
06936	37293	55875	71213	83025	46063	74665	12178	10741	58362
84981	60458	16194	92403	80951	80068	47076	23310	74899	87929
66354	88441	96191	04794	14714	64749	43097	83976	83281	72038
49602	94109	36460	62353	00721	66980	82554	90270	12312	56299
78430	72391	96973	70437	97803	78683	04670	70667	58912	21883
33331	51803	15934	75807	46561	80188	78984	29317	27971	16440
62843	84445	56652	91797	45284	25842	96246	73504	21631	81223
19528	15445	77764	33446	41204	70067	33354	70680	66664	75486
16737	01887	50934	43306	75190	86997	56561	79018	34273	25196
99389	06685	45945	62000	76228	60645	87750	46329	46544	95665
36160	38196	77705	28891	12106	56281	86222	66116	39626	06080
05505	45420	44016	79662	92069	27628	50002	32540	19848	27319
85962	19758	92795	00458	71289	05884	37963	23322	73243	98185
28763	04900	54460	22083	89279	43492	00066	40857	86568	49336
42222	40446	82240	79159	44168	38213	46839	26598	29983	67645
43626	40039	51492	36488	70280	24218	14596	04744	89336	35630
97761	43444	95895	24102	07006	71923	04800	32062	41425	66862
49275	44270	52512	03951	21651	53867	73531	70073	45542	22831
15797	75134	39856	73527	78417	36208	59510	76913	22499	68467
04497	24853	43879	07613	26400	17180	18880	66083	02196	10638
95468	87411	30647	88711	01765	57688	60665	57636	36070	37285
01420	74218	71047	14401	74537	14820	45248	78007	65911	38583
74633	40171	97092	79137	30698	97915	36305	42613	87251	75608
46662	99688	59576	04887	02310	35508	69481	30300	94047	57096
10853	10393	03013	90372	89639	65800	88532	71789	59964	50681

## Appendix E – California Herpetofauna Species Code

Compiled by: Don Ashton, Amy Lind, and Hart Welsh  
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 Sciences Lab, 1700 Bayview Drive, Arcata, CA 95521 (707) 822-3691

The following is a code list for the native amphibian and reptile species in California. Common exotic species are also included and some recently described species may be excluded. Subspecies are included for some species of special concern in California (Jennings and Hayes 1994) and are indented below species name. The first two letters of each four-letter code represent the genus and the second two, the species. The list is ordered by four simple "bioregions": Northwestern, Sierra/Modoc, South Coast Ranges, and Southeastern Deserts. The National Forests included in each bioregion are listed at the beginning of each section. Within each bioregion section the species are ordered systematically. Recent taxonomic revisions are indicated as NEWNAME=OLDNAME for codes and old names in parentheses for scientific names. Where there is not consensus among herpetologists on common or scientific names, the less commonly used alternates are in []. An asterisk (\*) following the species code indicates marginal distribution for that bioregion.

### NORTHWESTERN (Klamath, Mendocino, Shasta-Trinity, Six Rivers)

#### AMPHIBIANS

Code	Common Name	Scientific Name
TAGR	Rough-skinned newt	<i>Taricha granulosa</i>
TARI	Red-bellied newt	<i>Taricha rivularis</i>
TATO	California newt	<i>Taricha torosa</i>
DITE=DIEN	Pacific giant salamander	<i>Dicamptodon tenebrosus (ensatus)</i>
RHVA=RHOL	Southern torrent salamander	<i>Rhyacotriton variegatus (olympicus)</i>
AMGR	Northwestern salamander	<i>Ambystoma gracile</i>
AMMA	Long-toed salamander	<i>Amybstoma macrodactylum</i>
AMTI	Tiger salamander	<i>Ambystoma tigrinum</i>
ANFE	Clouded salamander	<i>Aneides ferreus</i>
ANFL	Black salamander	<i>Aneides flavipunctatus</i>
ANLU	Arboreal salamander	<i>Aneides lugubris</i>
BAAT	California slender salamdr	<i>Batrachoseps attenuatus</i>
HYSH	Shasta salamander	<i>Hydromantes shastae</i>
ENES	Ensatina	<i>Ensatina eschscholtzi</i>
PLDU	Dunn's salamander	<i>Plethodon dunnii</i>
PLEL	Del Norte salamander	<i>Plethodon elongatus</i>
PLAS	Scott Bar Salamander	<i>Plethodon asupak</i>
PLST	Siskyou mountains salamander	<i>Plethodon stormi</i>
SCHA	Western spadefoot toad	<i>Scaphiopus hammondii</i>
BUBO	Western toad	<i>Bufo boreas</i>
HYRE	Pacific treefrog [chorus frog]	<i>Hyla [Pseudaris] regilla</i>
ASTR	Tailed frog	<i>Ascaphus truei</i>
RAAU	Red-legged frog	<i>Rana aurora</i>
RAAA	Northern red-legged frog	<i>Rana aurora aurora</i>
RABO	Foothill yellow-legged frog	<i>Rana boylei</i>
RACT	Bullfrog - EXOTI	<i>Rana catesbeiana</i>
RACA	Cascades frog	<i>Rana cascadae</i>

NORTHWESTERN (Klamath, Mendocino, Shasta-Trinity, Six Rivers)

REPTILES

Code	Common Name	Scientific Name
CLMA	Western pond turtle	<i>Clemmys marmorata</i>
ELCO=GECO	Northern alligator lizard	<i>Elgaria (Gerrhonotus) coerulea</i>
ELMU=GEMU	Southern alligator lizard	<i>Elgaria (Gerrhonotus) multicarinata</i>
SCGR	Sagebrush lizard	<i>Sceloporus graciosus</i>
SCOC	Western fence lizard	<i>Sceloporus occidentalis</i>
EUSK	Western skink	<i>Eumeces skiltonianus</i>
CNTI	Western whiptail	<i>Cnemidophorus tigris</i>
CHBO	Rubber boa	<i>Charina bottae</i>
COCO	Western racer	<i>Coluber constrictor</i>
COTE	Sharp-tailed snake	<i>Contia tenuis</i>
DIPU	Ringneck snake	<i>Diadophis punctatus</i>
LAGE	Common kingsnake	<i>Lampropeltis getulus</i>
LAZO	Mountain kingsnake	<i>Lampropeltis zonata</i>
MALA	Striped racer	<i>Masticophis lateralis</i>
PIME	Gopher snake	<i>Pituophis melanoleucus</i>
THSP	Garter snake (species unknown)	<i>Thamnophis spp.</i>
THAT=THCO	Santa Cruz garter snake	<i>Thamnophis atratus (couchii)</i>
THEL	Western terrestrial garter snake	<i>Thamnophis elegans</i>
THOR	Northwestern garter snake	<i>Thamnophis ordinoides</i>
THSI	Common garter snake	<i>Thamnophis sirtalis</i>
CRVI	Western rattlesnake	<i>Crotalus viridis</i>

SIERRA/MODOC (Eldorado, Inyo, Lake Tahoe Basin, Lassen, Modoc, Plumas, Sequoia, Sierra, Stanislaus, Tahoe)

AMPHIBIANS

Code	Common Name	Scientific Name
TAGR	Rough-skinned newt	<i>Taricha granulosa</i>
TATO	California newt	<i>Taricha torosa</i>
AMMA	Long-toed salamander	<i>Amyxystoma macrodactylum</i>
AMTI*	Tiger salamander	<i>Ambystoma tigrinum</i>
AMCA	California tiger salamander	<i>Ambystoma californiense</i>
ANLU	Arboreal salamander	<i>Aneides lugubris</i>
BAAT	California slender salamander	<i>Batrachoseps attenuatus</i>
BANI	Black-bellied slender salamander	<i>Batrachoseps nigriventris</i>
BAPA	Pacific slender salamander	<i>Batrachoseps pacificus</i>
BASI	Kern Canyon slender salamander	<i>Batrachoseps simatus</i>
BARE	Relictual slender salamander	<i>Batrachoseps relictus</i>
BAST	Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>
BACA	Inyo Mountains salamander	<i>Batrachoseps campi</i>
HYPL	Mt. Lyell salamander	<i>Hydromantes platycephalus</i>
HYBR	Limestone salamander	<i>Hydromantes brunus</i>
ENES	Ensatina	<i>Ensatina eschscholtzi</i>
SCHA	Western spadefoot	<i>Scaphiopus hammondii</i>
SCIN	Great Basin spadefoot	<i>Scaphiopus intermontanus</i>
BUBO	Western toad	<i>Bufo boreas</i>

**AMPHIBIANS**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
BUEX	Black toad	<i>Bufo exsul</i>
BUCA	Yosemite toad	<i>Bufo canorus</i>
RUPU*	Red-spotted toad	<i>Bufo punctatus</i>
HYRE	Pacific treefrog [chorus frog]	<i>Hyla [Pseudacris] regilla</i>
RAAU	Red-legged frog	<i>Rana aurora</i>
RAAD	California red-legged frog	<i>Rana aurora draytonii</i>
RAPR	Spotted frog	<i>Rana pretiosa</i>
RABO	Foothill yellow-legged frog	<i>Rana boylei</i>
RAMU	Mountain yellow-legged frog	<i>Rana muscosa</i>
RAPI	Northern leopard frog	<i>Rana pipiens</i>
RACT	Bullfrog - EXOTIC	<i>Rana catesbeiana</i>
RACA	Cascades frog	<i>Rana cascadae</i>

**REPTILES**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
CLMA	Western pond turtle	<i>Clemmys marmorata</i>
COVA*	Western banded gecko	<i>Coleonyx variegatus</i>
DIDO*	Desert iguana	<i>Dipsosaurus dorsalis</i>
SAOB*	Chuckwalla	<i>Sauromalus obesus</i>
CADR*	Zebra-tailed lizard	<i>Callisaurus draconoides</i>
CRIN*	Desert collared lizard	<i>Crotaphytus insularis</i>
GAWI*	Long-nosed leopard lizard	<i>Gambelia wislizenii</i>
GASI*	Blunt-nosed leopard lizard	<i>Gambelia sila [silus]</i>
SCMA*	Desert spiny lizard	<i>Sceloporus magister</i>
SCGR	Sagebrush lizard	<i>Sceloporus graciosus</i>
SCOC	Western fence lizard	<i>Sceloporus occidentalis</i>
UTST	Side-blotched lizard	<i>Uta stansburiana</i>
PHCO	Coast horned lizard	<i>Phrynosoma cornutum</i>
PHCF	California horned lizard	<i>Phrynosoma coronatum frontale</i>
PHPL	Desert horned lizard	<i>Phrynosoma platyrhinos</i>
PHDO	Short-horned lizard	<i>Phrynosoma douglasi</i>
XAVI*	Desert night lizard	<i>Xantusia vigilis</i>
EUSK	Western skink	<i>Eumeces skiltonianus</i>
EUGI	Gilbert's skink	<i>Eumeces gilberti</i>
CNTI	Western whiptail	<i>Cnemidophorus tigris</i>
ELCO=GECO	Northern alligator lizard	<i>Elgaria (Gerrhonotus) coerulea</i>
ELMU=GEMU	Southern alligator lizard	<i>Elgaria (Gerrhonotus) multicarinata</i>
ELPA=GEPA	Panamint alligator lizard	<i>Elgaria (Gerrhonotus) panamintina</i>
ANNI=ANPU*	California legless lizard	<i>Anniella nigra (pulchra)</i>
CHBO	Rubber boa	<i>Charina bottae</i>
LITR*	Rosy boa	<i>Lichanura trivirgata</i>
LEHU*	Western blind snake	<i>Leptotyphlops humilis</i>
MAFL	Coachwhip	<i>Masticophis flagellum</i>
MATA	Striped whipsnake	<i>Masticophis taeniatus</i>
MALA	California whipsnake	<i>Masticophis lateralis</i>
COCO	Racer	<i>Coluber constrictor</i>
SAHE	Western patch-nosed snake	<i>Salvadora hexalepis</i>
AREL	Glossy snake	<i>Arizona elegans</i>

**REPTILES**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
COTE	Sharp-tailed snake	<i>Contia tenuis</i>
DIPU	Ringneck snake	<i>Diadophis punctatus</i>
LAGE	Common kingsnake	<i>Lampropeltis getula [getulus]</i>
LAZO	California mountain kingsnake	<i>Lampropeltis zonata</i>
RHLE	Long-nosed snake	<i>Rhinocheilus lecontei</i>
PIME	Gopher snake	<i>Pituophis melanoleucus</i>
THSP	Garter snake (species unknown)	<i>Thamnophis spp.</i>
THAT=THCO*	Oregon garter snake	<i>Thamnophis atratus (couchii)</i>
THEL	Western terrestrial garter snake	<i>Thamnophis elegans</i>
THCO	Western aquatic garter snake	<i>Thamnophis couchi</i>
THSI	Common garter snake	<i>Thamnophis sirtalis</i>
SOSE	Ground snake	<i>Sonora semiannulata</i>
CHOC*	Western shovel-nosed snake	<i>Chionactis occipitalis</i>
TAHO	Southwestern black-headed snake	<i>Tantilla hobartsmithi</i>
TRBI*	Lyre snake	<i>Trimorphodon biscutatus</i>
HYTO	Night snake	<i>Hypsiglena torquata</i>
CRMI	Speckled rattlesnake	<i>Crotalus mitchelli</i>
CRVI	Western rattlesnake	<i>Crotalus viridis</i>

**SOUTH COAST RANGES (Angeles, Cleveland, Los Padres, San Bernardino)**

**AMPHIBIANS**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
TATO	California newt	<i>Taricha torosa</i>
TATT	Coast Range newt	<i>Taricha torosa torosa</i>
DITE=DIEN*	Pacific giant salamander	<i>Dicamptodon tenebrosus (ensatus)</i>
AMTI	Tiger salamander	<i>Ambystoma tigrinum</i>
AMCA	California tiger salamander	<i>Ambystoma californiense</i>
ANLU	Arboreal salamander	<i>Aneides lugubris</i>
ENES	Ensatina	<i>Ensatina eschscholtzi</i>
BAAR	Desert slender salamander	<i>Batrachoseps aridus</i>
BANI	Black-bellied slender salamander	<i>Batrachoseps nigriventris</i>
BAPA	Pacific slender salamander	<i>Batrachoseps pacificus</i>
BAST	Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>
SCHA	Western spadefoot toad	<i>Scaphiopus hammondii</i>
BUBO	Western toad	<i>Bufo boreas</i>
BUMI	Southwestern toad	<i>Bufo microscaphus</i>
BUMC	Arroyo toad	<i>Bufo microscaphus californicus</i>
BUPU*	Red-spotted toad	<i>Bufo punctatus</i>
HYCA	California treefrog[chorus frog]	<i>Hyla [Pseudacris] cadaverina</i>
HYRE	Pacific treefrog [chorus frog]	<i>Hyla [Pseudacris] regilla</i>
RAAU	Red-legged frog	<i>Rana aurora</i>
RAAD	California red-legged frog	<i>Rana aurora draytonii</i>
RABO	Foothill yellow-legged frog	<i>Rana boylei</i>
RAMU	Mountain yellow-legged frog	<i>Rana muscosa</i>
RAPI	Northern leopard frog	<i>Rana pipiens</i>
RACT	Bullfrog - EXOTIC	<i>Rana catesbeiana</i>

**REPTILES**

Code	Common Name	Scientific Name
CLMA	Western pond turtle	<i>Clemmys marmorata</i>
TRSC=PSSC	Slider - EXOTIC	<i>Trachemys (Pseudemys) scripta</i>
GOAG*	Desert tortoise	<i>Gopherus agassizi</i>
COSW*	Barefoot gecko	<i>Coleonyx switaki</i>
COVA*	Western banded gecko	<i>Coleonyx variegatus</i>
PHXA*	Leaf-toed gecko	<i>Phyllodactylus xanti</i>
DIDO*	Desert iguana	<i>Dipsosaurus dorsalis</i>
SAOB*	Chuckwalla	<i>Sauromalus obesus</i>
CADR*	Zebratail lizard	<i>Callisaurus draconoides</i>
CRIN*	Desert collared lizard	<i>Crotaphytus insularis</i>
GAWI*	Long-nosed leopard lizard	<i>Gambelia wislizenii</i>
GASI*	Blunt-nosed leopard lizard	<i>Gambelia sila [silus]</i>
SCMA*	Desert spiny lizard	<i>Sceloporus magister</i>
SCOR*	Granite spiny lizard	<i>Sceloporus orcutti</i>
SCGR	Sagebrush lizard	<i>Sceloporus graciosus</i>
SCOC	Western fence lizard	<i>Sceloporus occidentalis</i>
UTST	Side-blotched lizard	<i>Uta stansburiana</i>
URGR*	Long-tailed brush lizard	<i>Urosaurus graciosus</i>
URMI*	Small-scaled lizard	<i>Urosaurus microscutatus</i>
PEME*	Banded rock lizard	<i>Petrosaurus mearnsi</i>
PHCO	Coast horned lizard	<i>Phrynosoma cornatum</i>
PHCB	San Diego horned lizard	<i>Phrynosoma cornatum blainvillii</i>
PHCF	California horned lizard	<i>Phrynosoma coroatum frontale</i>
PHPL*	Desert horned lizard	<i>Phrynosoma platyrhinus</i>
XAHE	Granite night lizard	<i>Xantusia henshawi</i>
XAHG	Sandstone night lizard	<i>Xantusia henshawi gracilis</i>
XAVI*	Desert night lizard	<i>Xantusia vigilis</i>
XAVS	Sierra night lizard	<i>Xantusia vigilis sierrae</i>
EUSK	Western skink	<i>Eumeces skiltonianus</i>
EUSI	Coronado skink	<i>E. skiltonianus interparietalis</i>
EUGI	Gilbert's skink	<i>Eumeces gilberti</i>
CNHY*	Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>
CNHB	Belding's orange-throated whiptail	<i>Cnemidophorus hyperythrus beldingi</i>
CNTI	Western whiptail	<i>Cnemidophorus tigris</i>
ELMU=GEMU	Southern alligator lizard	<i>Elgaria (Gerrhonotus) multicarinata</i>
ANNI=ANPU*	California legless lizard	<i>Anniella nigra (pulchra)</i>
CHBO	Rubber boa	<i>Charina bottae</i>
LITR	Rosy boa	<i>Lichanura trivirgata</i>
LEHU*	Western blind snake	<i>Leptotyphlops humilis</i>
PHDE*	Spotted leaf-nosed snake	<i>Phyllorhynchus decurtatus</i>
MAFL	Coachwhip	<i>Masticophis flagellum</i>
MAFR	San Joaquin coachwhip	<i>Masticophis flagellum ruddocki</i>
MALA	California whipsnake	<i>Masticophis lateralis</i>
COCO	Racer	<i>Coluber constrictor</i>
SAHE	Western patch-nosed snake	<i>Salvadora hexalepis</i>
SAHV	Coast patch-nosed snake	<i>Salvadora hexalepis virgultea</i>
AREL	Glossy snake	<i>Arizona elegans</i>
COTE	Sharp-tailed snake	<i>Contia tenuis</i>

**REPTILES**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
DIPU	Ringneck snake	<i>Diadophis punctatus</i>
LAGE	Common kingsnake	<i>Lampropeltis getula [getulus]</i>
LAZO	California mountain kingsnake	<i>Lampropeltis zonata</i>
LAZA	San Bernardino mnt kingsnake	<i>Lampropeltis zonata parivrubra</i>
LAZU	San Diego mountain kingsnake	<i>Lampropeltis zonata pulchra</i>
RHLE*	Long-nosed snake	<i>Rhinocheilus lecontei</i>
PIME	Gopher snake	<i>Pituophis melanoleucus</i>
THSP	Garter snake (species unknown)	<i>Thamnophis spp.</i>
THAT=THCO*	Santa Cruz garter snake	<i>Thamnophis atratus (couchii)</i>
THEL	Western terrestrial garter snake	<i>Thamnophis elegans</i>
THHA	Two-striped garter snake	<i>Thamnophis hammondi</i>
THSI	Common garter snake	<i>Thamnophis sirtalis</i>
TAPL*	Western black-headed snake	<i>Tantilla planiceps</i>
TAHO*	Southwestern black-headed snake	<i>Tantilla hobartsmithi</i>
TRBI*	Lyre snake	<i>Trimorphodon biscutatus</i>
HYTO	Night snake	<i>Hypsiglena torquata</i>
CRAT*	Western diamondback rattlesnake	<i>Crotalus atrox</i>
CRRU*	Red diamond rattlesnake	<i>Crotalus ruber</i>
CRMI	Speckled rattlesnake	<i>Crotalus mitchelli</i>
CRVI	Western rattlesnake	<i>Crotalus viridis</i>
CRSC*	Mojave rattlesnake	<i>Crotalus scutulatus</i>

**SOUTH EASTERN DESERTS (no National Forests)**

**AMPHIBIANS**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
BAAR	Desert slender salamander	<i>Batrachoseps aridus</i>
SCCO	Couch's spadefoot	<i>Scaphiopus couchi</i>
BUAL	Colorado River toad	<i>Scaphiopus alvarius</i>
BUBO*	Western toad	<i>Bufo boreas</i>
BUWO	Woodhouse's toad	<i>Bufo woodhousei</i>
BUPU	Red-spotted toad	<i>Bufo punctatus</i>
BUCO	Great plains toad	<i>Bufo cognatus</i>
HYCA*	California treefrog(chorus frog)	<i>Hyla [Pseudacris] cadaverina</i>
HYRE*	Pacific treefrog (chorus frog)	<i>Hyla [Pseudacris] regilla</i>
RAPI*	Northern leopard frog	<i>Rana pipiens</i>
RAYA	Lowland leopard frog	<i>Rana yavapaiensis</i>
RACT*	Bullfrog - EXOTIC	<i>Rana catesbeiana</i>

**REPTILES**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
CLMA*	Western pond turtle	<i>Clemmys marmorata</i>
TRSC=PSSC*	Slider - EXOTIC	<i>Trachemys (Pseudemys) scripta</i>
KISO	Sonoran mud turtle	<i>Kinosternon sonoriense</i>
GOAG	Desert tortoise	<i>Gopherus agassizi</i>
TRSP	Spiny softshell	<i>Trionyx spiniferus</i>
COVA	Western banded gecko	<i>Coleonyx variegatus</i>
PHXA	Leaf-toed gecko	<i>Phyllodactylus xanti</i>

**REPTILES**

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
DIDO	Desert iguana	<i>Dipsosaurus dorsalis</i>
SAOB	Chuckwalla	<i>Sauromalus obesus</i>
CADR	Zebra-tailed lizard	<i>Callisaurus draconoides</i>
UMSC	Mojave fringe-toed lizard	<i>Uma scoparia</i>
UMNO	Colorado Desert fringe-toed liz.	<i>Uma notata</i>
UMIN	Coachella Valley fringe-toed	<i>Uma inornata</i>
CRIN	Desert collared lizard	<i>Crotaphytus insularis</i>
GAWI	Long-nosed leopard lizard	<i>Gambelia wislizenii</i>
SCMA	Desert spiny lizard	<i>Sceloporus magister</i>
SCOR*	Granite spiny lizard	<i>Sceloporus orcutti</i>
SCGR*	Sagebrush lizard	<i>Sceloporus graciosus</i>
SCOC*	Western fence lizard	<i>Sceloporus occidentalis</i>
UTST	Side-blotched lizard	<i>Uta stansburiana</i>
URGR	Long-tailed brush lizard	<i>Urosaurus graciosus</i>
UROR	Tree lizard	<i>Urosaurus ornatus</i>
URMI	Small-scaled lizard	<i>Urosaurus microscutatus</i>
PEME	Banded rock lizard	<i>Petrosaurus mearnsi</i>
PHPL	Desert horned lizard	<i>Phrynosoma platyrhinos</i>
PHMC	Flat-tailed horned lizard	<i>Phrynosoma mcalli</i>
XAVI	Desert night lizard	<i>Xantusia vigilis</i>
EUSK*	Western skink	<i>Eumeces skiltonianus</i>
EUGI*	Gilbert's skink	<i>Eumeces gilberti</i>
CNTI	Western whiptail	<i>Cnemidophorus tigris</i>
ELMU=GEMU*	Southern alligator lizard	<i>Elgaria (Gerrhonotus) multicarinata</i>
ELPA=GEMU*	Panamint alligator lizard	<i>Elgaria (Gerrhonotus) panamintina</i>
ANNI=ANPU*	California legless lizard	<i>Anniella nigra (pulchra)</i>
HESU	Gila monster	<i>Heloderma suspectum</i>
HESC	Banded gila monster	<i>Heloderma suspectum cinctum</i>
LITR	Rosy boa	<i>Lichanura trivirgata</i>
LEHU	Western blind snake	<i>Leptotyphlops humilis</i>
PHDE	Spotted leaf-nosed snake	<i>Phyllorhynchus decurtatus</i>
MAFL	Coachwhip	<i>Masticophis flagellum</i>
MATA	Striped whipsnake	<i>Masticophis taeniatus</i>
MALA*	California whipsnake	<i>Masticophis lateralis</i>
COCO*	Racer	<i>Coluber constrictor</i>
SAHE	Western patch-nosed snake	<i>Salvadora hexalepis</i>
AREL	Glossy snake	<i>Arizona elegans</i>
DIPU*	Ringneck snake	<i>Diadophis punctatus</i>
LAGE	Common kingsnake	<i>Lampropeltis getula [getulus]</i>
RHLE	Long-nosed snake	<i>Rhinocheilus lecontei</i>
PIME	Gopher snake	<i>Pituophis melanoleucus</i>
THSP	Garter snake (species unknown)	<i>Thamnophis spp.</i>
THEL*	Western terrestrial garter snake	<i>Thamnophis elegans</i>
THCO*	Western aquatic garter snake	<i>Thamnophis couchi</i>
THMA*	Checkered garter snake	<i>Thamnophis marcianus</i>
SOSE	Ground snake	<i>Sonora semiannulata</i>
CHOC	Western shovel-nosed snake	<i>Chionactis occipitalis</i>
TAHO	Southwestern black-headed snake	<i>Tantilla hobartsmithi</i>
TRBI	Lyre snake	<i>Trimorphodon biscutatus</i>
HYTO	Night snake	<i>Hypsiglena torquata</i>



## REPTILES

Code	Common Name	Scientific Name
CRAT	Western diamondback rattlesnake	<i>Crotalus atrox</i>
CRMI	Speckled rattlesnake	<i>Crotalus mitchellii</i>
CRCE	Sidewinder	<i>Crotalus cerastes</i>
CRVI*	Western rattlesnake	<i>Crotalus viridis</i>
CRSC	Mojave rattlesnake	<i>Crotalus scutulatus</i>

### References for Scientific Names:

Collins, J.T. 1990. Standard Common and Current Scientific Names for North American Amphibians and Reptiles, 3rd ed. Herpetological Circular No. 19. Society for the Study of Amphibians and Reptiles.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game. Rancho Cordova.

### References for Range Information and Common Names:

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game. Rancho Cordova.

Stebbins, R.C. 1985. Western Reptiles and Amphibians. Houghton Mifflin Company Boston.

Zeiner, D.C., W.F. Laudenslayer Jr., and K.E. Mayer. 1988. California's Wildlife, Volume 1, Amphibians and Reptiles. California Statewide Wildlife Habitat Relationships System. The Resources Agency, Department of Fish and Game. Sacramento.

## Appendix F – Fish Species Code

Code	Native or Introduced	Fish Range	Common Name	GIS Label	Alternate Name	Scientific Name
01	N	A	Pacific Lamprey	pacific lamprey	S01	<i>Lampetra tridentata</i>
02	N	R	River Lamprey	river lamprey	S02	<i>Lampetra ayresi</i>
03	N	R	Pacific brook lamprey	pac-brk-lamprey	S03	<i>Lampetra pacifica</i>
04	N	R	Pi-Klamath brook lamprey	pi-K-brk-lamprey	S04	<i>Lampetra lethophaga</i>
05	N	A	White sturgeon	white sturgeon	S05	<i>Acipenser transmontanus</i>
06	N	A	Green sturgeon	green sturgeon	S06	<i>Acipenser medirostris</i>
09	I	A	American shad	american shad	S09	<i>Alosa sapidissima</i>
10	I	A	Threadfin shad	threadfin shad	S10	<i>Doronmosa petenense</i>
11	N	A	Eulachon	eulachon	S11	<i>Thaleichthys pacificus</i>
15	I	R	Mountain whitefish	mtn whitefish	S15	<i>Prosopium williamsoni</i>
16	N	A	Pink salmon	pink salmon	S16	<i>Oncorhynchus gorbuscha</i>
17	N	A	Chum salmon	chum salmon	S17	<i>Oncorhynchus keta</i>
18	N	A	Coho salmon	coho salmon	S18	<i>Oncorhynchus kisutch</i>
18.5	N	A	Coho salmon-winter	coho winter	S18.5	<i>Oncorhynchus kisutch</i>
19	N	A	Chinook salmon all	chinook all	S19	<i>Oncorhynchus tshawytscha</i>
19.1	N	A	Chinook salmon spring	chinook spring	S19.1	<i>Oncorhynchus tshawytscha</i>
19.2	N	A	Chinook salmon summer	chinook summer	S19.2	<i>Oncorhynchus tshawytscha</i>
19.3	N	A	Chinook salmon fall	chinook fall	S19.3	<i>Oncorhynchus tshawytscha</i>
19.4	N	A	Chinook salmon late fall	chinook late fall	S19.4	<i>Oncorhynchus tshawytscha</i>
20	N	A	Sockeye salmon	sockeye salmon	S20	<i>Oncorhynchus nerka</i>
21	I	R	Kokanee	kokanee	S21	<i>Oncorhynchus nerka</i>
22	I	R	Brook trout	brook trout	S22	<i>Salvelinus fontinalis</i>
23	I	R	Lake trout	lake trout	S23	<i>Salvelinus namaycush</i>
24	I	R	Interior Dolly varden	int dolly varden	S24	<i>Salvelinus cortuentus</i>
25	N	A	Coast Dolly varden	cst dolly varden	S25	<i>Salvelinus malma</i>
26	N	R	Cuthroat trout resident	cuthroat resident	S26	<i>Oncorhynchus clarki</i>
26.5	N	A	Cuthroat trout winter	cuthroat winter	S26.5	<i>Oncorhynchus clarki</i>
27	N	B	Brown trout	brown trout	S27	<i>Salmo trutta</i>
28	N	R	Redband trout	redband trout	S28	<i>Oncorhynchus mykiss</i>
29	I	R	Volcano Creek golden trout	golden trout	S29	<i>Oncorhynchus aquabonita</i>
30	N	R	Rainbow trout resident	rainbow res	S30	<i>Oncorhynchus mykiss mongrel</i>
30.1	N	A	Steelhead all	rainbow all	S30.1	<i>Oncorhynchus mykiss irideus</i>
30.2	N	A	Steelhead summer	rainbow summer	S30.2	<i>Oncorhynchus mykiss irideus</i>
30.5	N	A	Steelhead winter	rainbow winter	S30.5	<i>Oncorhynchus mykiss irideus</i>
31	I	A	Arctic grayling	arctic grayling	S31	<i>Thymallus arcticus</i>
32	I	R	Carp	carp	S32	<i>Cyprinus carpio</i>

Code	Native or Introduced	Fish Range	Common Name	GIS Label	Alternate Name	Scientific Name
33	I	R	Goldfish	goldfish	S33	<i>Carassius auratus</i>
34	I	R	Tench	tench	S34	<i>Tinca tinca</i>
35	I	R	Golden Shiner	golden shiner	S35	<i>Notemigenus crysoleucas</i>
36	I	R	Sacramento blackfish	sac blackfish	S36	<i>Orthodon microlepidotus</i>
37	I	R	Hardhead	hardhead	S37	<i>Mylopharodon conocephalus</i>
38	I	R	Hitch	hitch	S38	<i>Lavinia exilicauda</i>
39	I	R	Sacramento pikeminnow	sac squawfish	S39	<i>Ptychocheilus grandis</i>
43	N	R	Tui chub	tui chub	S43	<i>Gila bicolor</i>
44	I	R	Arroyo chub	arroyo chub	S44	<i>Gila orcutti</i>
48	I	R	California roach	california roach	S48	<i>Lavinia symmetricus</i>
49	N	R	Speckled dace	speckled dace	S49	<i>Rhinichthys osculus</i>
50	R		Lahontan redbreast	lahontan redbreast	S50	<i>Richardsonius egregius</i>
51	R		Red shiner	red shiner	S51	<i>Cyprinella lutrensis</i>
52	I	R	Fathead minnow	fathead minnow	S52	<i>Pimephales promelas</i>
53	I	R	Bigmouth buffalo	bigmouth buffalo	S53	<i>Ictiobus cyprinellus</i>
62	I	R	Staghorn sculpin	staghorn sculpin	S62	<i>Leptocottus armatus</i>
63	I	R	Slender sculpin	slender sculpin	S63	<i>Cottus tenuis</i>
64		R	Prickly sculpin	prickly sculpin	S64	<i>Cottus asper</i>
65	N	R	Marbled sculpin	marbled sculpin	S65	<i>Cottus klamathensis</i>
66	N	R	Riffle sculpin	riffle sculpin	S66	<i>Cottus gulosus</i>
68	I	R	Santa Ana sucker	santa ana sucker	S68	<i>Catostomus santaanae</i>
69		R	Mountain sucker	mountain sucker	S69	<i>Catostomus platyrhynchus</i>
71	N	R	Klamath smallscale sucker	kla smcl sucker	S71	<i>Catostomus rimiculus</i>
73	I	R	Tahoe sucker	tahoe sucker	S73	<i>Catostomus tahoensis</i>
74	I	R	Owens sucker	owens sucker	S74	<i>Catostomus fimeiventris</i>
75	N	R	Klamath largescale sucker	kla lscl sucker	S75	<i>Catostomus snyderi</i>
76	I	R	Sacramento sucker	sac sucker	S76	<i>Catostomus occidentalis</i>
77	I	R	Blue catfish	blue catfish	S77	<i>Ictalurus furcatus</i>
78	I	R	Channel catfish	channel catfish	S78	<i>Ictalurus punctatus</i>
79	I	R	White catfish	white catfish	S79	<i>Ameiurus catus</i>
80	I	R	Yellow bullhead	yellow bullhead	S80	<i>Ameiurus natalis</i>
81	I	R	Brown bullhead	brown bullhead	S81	<i>Ameiurus nebulosus</i>
82	I	R	Black bullhead	black bullhead	S82	<i>Ameiurus melas</i>
83	I	R	Flathead catfish	flathead catfish	S83	<i>Pylodictis olivaris</i>
85	I	R	Rainwater killfish	rainwt killfish	S85	<i>Lucania parvu</i>
88	I	R	California killfish	cal killfish	S88	<i>Fundulus parvipinnis</i>
89	I	R	Desert pupfish	desert pupfish	S89	<i>Cyprinodon macularius</i>
90	I	R	Owens pupfish	owens pupfish	S90	<i>Cyprinodon radiosus</i>
91	I	R	Amargosa pupfish	amarg pupfish	S91	<i>Cyprinodon nevadensis</i>
92	I	R	Salt creek pupfish	salt ck pupfish	S92	<i>Cyprinodon salinus</i>
93	I	R	Cottonball marsh pupfish	ctn.mars. pupfish	S93	<i>Cyprinodon milleri</i>

Code	Native or Introduced	Fish Range	Common Name	GIS Label	Alternate Name	Scientific Name
94	H	R	Mosquito fish	mosquito fish	S94	<i>Gambusia affinis</i>
102	H	R	Mississippi silversides	miss silversides	S102	<i>Menidia audens</i>
103	N	R	Threespine stickleback	thrp stickleback	S103	<i>Gasterosteus aculeatus</i>
104	I	R	Striped bass	striped bass	S104	<i>Morone saxatilis</i>
105	I	R	White bass	white bass	S105	<i>Morone chrysops</i>
106	I	R	Sacramento perch	sacramento perch	S106	<i>Archoplites interruptus</i>
107	I	R	Black crappie	black crappie	S107	<i>Pomoxis nigromaculatus</i>
108	I	R	White crappie	white crappie	S108	<i>Pomoxis annularis</i>
109	I	R	Warmouth	warmouth	S109	<i>Lepomis gulosus</i>
110	I	R	Green sunfish	green sunfish	S110	<i>Lepomis cyanellus</i>
111	I	R	Blue Gill	blue gill	S111	<i>Lepomis macrochirus</i>
112	I	R	Pumpkinseed	pumpkinseed	S112	<i>Lepomis gibbosus</i>
113	I	R	Redear sunfish	redear sunfish	S113	<i>Lepomis microlophus</i>
114	I	R	Largemouth bass	largemouth bass	S114	<i>Micropterus salmoides</i>
115	I	R	Spotted bass	spotted bass	S115	<i>Micropterus punctulatus</i>
116	I	R	Smallmouth bass	smallmouth bass	S116	<i>Micropterus dolomieu</i>
118	I	R	Yellow perch	yellow perch	S118	<i>Perca flavescens</i>
123	I	R	Tule perch	tule perch	S123	<i>Hysterocarpus traski</i>
128		R	Sharpnose sculpin	sharpnose sculpin	S128	<i>Clinocottus acuticeps</i>
129		R	Rough sculpin	rough sculpin	S129	<i>Cottus asperimus</i>
131	N	R	Pit sculpin	pit sculpin	S131	<i>Cottus pitensis</i>
132		R	Paiute sculpin	paiute sculpin	S132	<i>Cottus beldingi</i>
133		R	Reticulate sculpin	retcula sculpin	S133	<i>Cottus perplexus</i>
134	N	R	Blue chub	blue chub	S134	<i>Gila coerulea</i>
135	N	R	Shortnose sucker	shortnose sucker	S135	<i>Chasmistes brevirostris</i>
136	N	R	Lost River sucker	lost rvr sucker	S136	<i>Catostomus luxatus</i>
137	N	R	Sculpin all species	sculpin sp	S137	<i>Cottus sp.</i>
138	I	R	Pond smelt	pond smelt	S138	<i>Hypomesus olidus</i>
139		R	Brook stickleback	brk stickleback	S139	<i>Culaea inconstans</i>
140	N	R	Modoc sucker	modoc sucker	S140	<i>Catostomus microps</i>
141	N	R	Klamath Lake sculpin	kla lake sculpin	S141	<i>Cottus princeps</i>
142	N	R	Klamath River lamprey	kla rvr lamprey	S142	<i>Lampreta similis</i>
143	N	R	Coast Range sculpin	cst range sculpin	S143	<i>Cottus aleuticus</i>
144	N	R	Kern River Rainbow trout	kern rvr rainbow	S144	<i>Oncorhynchus mykiss giberti</i>
145	N	R	Little Kern golden trout	little kern golden	S145	<i>Oncorhynchus mykiss whitei</i>
146	N	R	Lahontan cutthroat trout	lahontan cutthroat	S146	<i>Oncorhynchus clarki henshawi</i>
147			Delta smelt	delta smelt	S147	<i>Hypomesus transpacificus</i>
148			Surf smelt	surf smelt	S148	<i>Hypomesus pretiosus</i>
149			Topsmelt	topsmelt	S149	<i>Atherinops affinis</i>
150			Argentine pearlfish	arg pearlfish	S150	<i>Cynolebias bellotti</i>

Code	Native or Introduced	Fish Range	Common Name	GIS Label	Alternate Name	Scientific Name
151			Pacific Herring	pacific herring	S151	<i>Clupea harengus pallasii</i>
152			Guppy	guppy	S152	<i>Poecilia reticulata</i>
153			Green swordtail	grn swordtail	S153	<i>Xiphophorus helleri</i>
154			Redeye bass	redeye bass	S154	<i>Micropterus coosae</i>
155			Shiner perch	shiner perch	S155	<i>Cymatogaster aggregata</i>
156			Tidewater goby	tidewater goby	S156	<i>Eucyclogobius newberryi</i>
157			Longjaw mudsucker	longjaw mudsucker	S157	<i>Gillichthys mirabilis</i>
158			Arrow goby	arrow goby	S158	<i>Clevelandia ios</i>
159			Starry flounder	starry flounder	S159	<i>Platichthys stellatus</i>
160			Shortfin Corvina	shortfin corvina	S160	<i>Cynoscion parvipinnis</i>
161			Longtail goby	longtail goby	S161	<i>Ctenogobius sagittula</i>
162			Grass carp	grass carp	S162	<i>Ctenopharyngodon idella</i>
163			Lahontan tui chub	lahontan chub	S163	<i>Gila bicolor obesa</i>
164			Sacramento splittail	sac splittail	S164	<i>Pogonichthys macrolepidotus</i>
165			Inland silverside	inland silverside	S165	<i>Menidia beryllina</i>
166			Saltfin molly	saltfin molly	S166	<i>Poecilia latipinna</i>
167			Shortfin molly	shortfin molly	S167	<i>Poecilia mexicana</i>
168			Yellowfin goby	yellowfin goby	S168	<i>Acanthogobius flavimanus</i>
169			Chameleon goby	chameleon goby	S169	<i>Tridentiger trionocephalus</i>
170			Unarmored 3 spine stickleback	unarmored 3 spine	S170	<i>Gasterosteus aculeatus williamsoni</i>
171			Barred pipefish	barred pipefish	S171	<i>Syngnathus auliscus</i>
172			California halibut	cal halibut	S172	<i>Syngnathus californicus</i>
173			Striped mullet	striped mullet	S173	<i>Mugil cephalus</i>
174			Diamond turbot	diamond turbot	S174	<i>Hypsopsetta guttulata</i>