1 **Linking climate niches across seasons to assess population vulnerability in a migratory bird**

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21 *Running title:* Niche tracking contributes to population vulnerability

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35 **Abstract:** Global loss of biodiversity has placed new urgency on the need to understand factors
36 regulating species response to rapid environmental change. While specialists are often less resilient to
37 rapid environmental change than generalists, species-level analyses may obscure the extent of
38 specialization when locally adapted populations vary in climate tolerances. Until recently, quantification
39 of the degree of climate specialization in migratory birds below the species level was hindered by a lack
40 of genomic and tracking information, but recent technological advances have helped to overcome these
41 barriers. Here we take a genome-wide genetic approach to mapping population-specific migratory routes
42 and quantifying niche breadth within genetically distinct populations of a migratory bird, the willow
43 flycatcher (*Empidonax traillii*), which exhibits variation in the severity of population declines across its
44 breeding range. While our sample size is restricted to the number of genetically distinct populations
45 within the species, our results support the idea that locally adapted populations of the willow flycatcher
46 with narrow climatic niches across seasons are already federally listed as endangered or in steep decline,
47 while populations with broader climatic niches have remained stable in recent decades. Overall, this
48 work highlights the value of quantifying niche breadth within genetically distinct groups across time and
49 space when attempting to understand the factors that facilitate or constrain the response of locally adapted
50 populations to rapid environmental change.

51 **Introduction**

52 The increasing pace of species extinctions has placed new urgency on the need to understand factors
53 regulating vulnerability to climate change (Dawson et al., 2011; Pacifici et al., 2015; Urban, 2015;
54 Walther et al., 2002; Warren et al., 2013). Recent advances in the field of conservation genomics support
55 the idea that locally adapted populations can vary significantly in their response to environmental change,
56 particularly when species distributions span multiple distinct ecological regions (Bay et al., 2018; Chen et
57 al., 2011; Ruegg et al., 2018; Yackulic et al., 2011). A species' ecological niche, defined as the sum of
58 the habitat requirements and behaviors that allow a species to persist within an environment (Grinnell,
59 1917), can be a key predictor of how they will respond to environmental change (Thuiller et al., 2005;
60 Walther et al., 2002). For example, specialists whose niches are defined by a narrow set of climate
61 parameters are thought to be more vulnerable to climate change impacts than generalists that occupy a
62 wide range of climate conditions (Clavel et al., 2011; Lurgi et al., 2012; Moritz & Agudo, 2013). While
63 species-level ecological niche models are widely used to quantify niche breadth, models that incorporate
64 information below the level of species are often more accurate because locally adapted populations can
65 vary in climate tolerances (Hällfors et al., 2016; Ikeda et al., 2017; Valladares et al., 2014). As a result,
66 an important and unexplored next step in improving predictions of species responses to future climate
67 change is to assess the relationship between niche breadth and past demographic change within locally

68   adapted populations.

69   Recent reports suggest that 2.9 billion birds have been lost from North America since the 1970s
70   (Rosenberg et al., 2019), but reasons behind such declines remain unclear. Migratory animals represent a
71   unique challenge for understanding the interaction between niche breadth and population vulnerability
72   because their highly mobile life history strategies make it difficult to quantify the extent of exposure to
73   climate conditions across time and space. The ability to track environmental conditions across seasons
74   may facilitate the evolution of niche specialization if natural selection occurs in similar directions on
75   breeding and wintering areas (Webster & Marra, 2004). Alternatively, the ability to switch niches at each
76   stage of the annual cycle may facilitate the evolution niche generalization if natural selection across
77   seasons is contrasting (Robinson et al., 2009).   While understanding the extent to which birds track or
78   switch their niche across seasons has important implications for understanding the evolution of niche
79   breadth, results of niche tracking studies are often contradictory. Some studies suggest species switch
80   niches (Gómez et al., 2016a; Joseph & Stockwell, 2000; Martínez–Meyer et al., 2004; Nakazawa et al.,
81   2004), while others suggest species track niches to varying degrees, depending on factors such as range
82   size, migration distance, and breeding latitude (Boucher-Lalonde et al., 2014; Laube et al., 2015; Zurell et
83   al., 2018). A potential limitation of previous work is the focus on species-level migration rather than
84   intraspecific migration which may obfuscate the extent of niche overlap across seasons if distinct
85   populations follow divergent migratory pathways and winter in different areas (Ruegg & Smith, 2002;
86   Turbek et al., 2018; but see Fandos et al 2020). While previous technological limitations made
87   quantifying seasonal niche overlap below the species level challenging, new methodological
88   breakthroughs in genomics and animal tracking technology have made it possible to map population-
89   specific migratory routes (Ruegg et al., 2014). Here we move beyond previous work by investigating the
90   relationship between seasonal niche overlap, niche breadth, and past population declines in genetically
91   distinct populations of a migratory songbird, the willow flycatcher, *Empidonax traillii*.

92   The willow flycatcher is an important species for exploring the relationship between niche breadth and
93   population vulnerability because understanding the factors behind population declines have important
94   implications for its conservation. The willow flycatcher is currently divided into four subspecies across
95   the continental USA (SI Fig. 1) which vary in status from not threatened (Pacific Northwestern form, *E. t.*
96   *brewsteri*; Western Central form, *E. t. adastus*; and Eastern form, *E. t. traillii*) to Endangered
97   (Southwestern form *E. t. extimus*). The southwestern subspecies, *E.t. extimus,* was listed as federally
98   endangered following steep population declines through the first half of the 20th Century (Sogge et al.,
99   1997; Unitt, 1987) and while there has been some controversy surrounding the subspecies designation of
100   the southwestern willow flycatcher (Zink, 2015), recent data supports its genetic and ecological

101   distinctiveness (Mahoney et al., 2020; Theimer et al., 2016). More specifically, our previous work using

102   ecological genomics investigated the link between a suite of climate and landscape variables and genome-

103   wide genetic signatures and found strong support for an association between genetic variation,

104   temperature and precipitation, but not landscape variables. In particular, we found highly significant

105   correlations between allele frequencies in genes linked to thermal tolerance and the intensity of summer

106   heat waves in the southwest (Ruegg et al., 2018). Further, the mismatch between current and future

107   predicted gene-environment correlations supported the idea that the Southwestern population would be

108   the most vulnerable to future climate change, but this work focused exclusively on the breeding grounds.

109   Here we expand on past work by investigating the extent to which locally adapted breeding populations

110   track similar environmental conditions across seasons. Such information can be used to help understand

111   the extent to which niche breadth within locally adapted populations of the willow flycatcher across

112   seasons may help explain past population declines as well as future population- and subspecific-level

113   resilience to environmental change.

114   In order to investigate the relationship between realized niche breadth, local adaptation, and regional

115   population trends, we begin by mapping genetically distinct populations of willow flycatcher across

116   breeding and wintering areas. We identify population structure across the breeding range using an

117   analysis of genome-wide genetic data and then screen an additional 393 breeding samples and 363

118   wintering individuals collected across breeding and wintering areas using a subset of SNP markers.

119   Using genetic stock identification methods co-opted from fisheries management (Satterthwaite et al.,

120   2015), we assign wintering individuals back to their most likely breeding population of origin and use the

121   resulting assignments to build a map of population-specific migratory connections. To quantify niche

122   breadth within each genetically distinct group, we then apply kernel smoothers to densities of occurrences

123   in environmental space and calculate the total niche area across breeding and wintering grounds as well as

124   the extent of seasonal niche overlap (Broennimann et al., 2012). Lastly, to assess the extent to which

125   niche breadth within genetically distinct populations is associated with past population declines, we

126   analyze population survey data from 1968 to 2015, stratified by genetic group (Sauer et al., 2017).

127   **Materials and Methods**

128   *Sample collection and DNA extraction*

129   We compiled a collection of 931 willow flycatcher blood or tissue samples, 568 samples from 37

130   locations across the breeding range and 363 samples from 64 locations across the wintering range using a

131   combination of samples from previous studies (Paxton, 2000), museum donations, and new field

132   collections (SI Tables 1 & 2). A subset of 175 individuals previously sequenced using RAD-seq (Ruegg

133   et al., 2018) were reanalyzed here to assess patterns of population structure across the breeding range and

134   identify a subset of genetic markers that could be used for population assignment. The remaining 393

135   breeding individuals and all of the overwintering individuals were genotyped at a subset of genetic

136   markers (see below for marker selection methods) to identify population-specific wintering locations.

137   DNA from all samples was purified using the Qiagen™ DNeasy Blood and Tissue extraction kit and

138   quantified using the Qubit® dsDNA HS Assay kit (Thermo Fisher Scientific).

139

140   *Genome scan*

141   Genome scans were previously conducted by Ruegg et al (2018) on 219 individuals following the

142   BestRAD library preparation protocol with some modifications (Ali *et al.* 2016). After visualizing the

143   tradeoff between discarding SNPs with low coverage and discarding individuals with missing genotypes

144   using the R package genoscapeRtools (DOI: 10.5281/zenodo.848279) the final number of 105,000 SNPs

145   and 175 individuals became the foundation for genome-wide analyses herein (Code and Data available at

146   DOI: 10.5281/zenodo.4656570). From these SNPs, 289 were removed as likely paralogs due to

147   aberrantly low homozygote genotype frequencies in samples from the Interior West. A further 85 SNPs

148   that were monomorphic amongst the samples were also removed. Within the remaining dataset, of

149   104,626 SNPs all 175 individuals were missing genotypes at fewer than 15.6% of SNPs and no SNP was

150   missing a genotype in more than 7.5% of individuals (mean fraction of missing data=2.3%). SNPrelate

151   (Zheng et al., 2012) was used visualize patterns of genome-wide population structure via Principal

152   Components Analysis (SI Fig. 1). Based upon a preliminary evaluation of the population clustering on

153   PC1 and PC2, we identified 7 main clusters which corresponded with geography, including (SI Fig. 1):

154   Pacific Northwest, White Mountain, South Southwest, Interior Northwest, Kern, Southern California, and

155   East. SNPrelate was then used to calculate genome-wide, pairwise F_{STs} between the seven main clusters.

156

157   *SNP Genotyping*

158   To select a subset of SNPs with the most power for identifying individuals to genetically identifiable

159   populations, we ranked SNPs by the probability of correct assignment for different population-level

160   comparisons, following Clemento et al. (2014, p. 118; see Github repository DOI:

161   10.5281/zenodo.4656570). To determine if the selected SNPs were convertible to SNPtype Assays based

162   on GC content and the amount of flanking sequence we used the R package SNPS2ASSAYS (DOI:

163   10.5281/zenodo.44692435). The resulting 174 SNPs for population assignment were combined with 18

164   climate associated SNPs from Ruegg et al (2018) to increase our power for population assignment. 192

165   SNPs were then converted into SNPtype Assays (Fluidigm Inc.) for subsequent genotyping of 393

166   breeding individuals on a Fluidigm™ 96.96 IFC controller following manufacturer guidelines. Ten SNPs

167   that could not be reliably genotyped were eliminated to yield a final panel of 182. After the initial

168   screening, the SNP panel was further reduced to a set of 96 SNPs based upon the power for population

169   assignment and the 96-SNP panel was screened in 363 wintering individuals (SI Table 2). Individuals

170   with < 80% of SNPs successfully genotyped were removed from downstream analyses.

171

172   *Structure analysis and genoscape construction*

173   To map the geographic distribution of genetically identifiable populations across the breeding range (*i.e.*

174   create the genoscape), we combined genotypes generated via the Fluidigm and RAD-Seq pipelines for all

175   568 individuals at 182 loci and used the resulting dataset to run the program STRUCTURE (Pritchard et

176   al., 2000). We ran 5 replicates for K values ranging from 3-9 using the following parameter values:

177   BURNIN=50000, NUMREPS=100000. To confirm that results were consistent between the Fluidigm and

178   RAD-Seq analysis pipelines and that there was no ascertainment bias associated with our SNP selection

179   procedure (Anderson, 2010), we visualized the structure results by genotyping method within each

180   sampling location (SI Fig. 2). To simplify the comparison of results, the program CLUMPP (Jakobsson

181   & Rosenberg, 2007) was used to reorder the cluster labels between runs, and individual *q* values

182   (proportion of an individual's ancestry inferred from each cluster) were plotted using the program

183   Distruct (N. A. Rosenberg, 2004).

184

185   To build the genoscape, the *q* values from each individual in STRUCTURE were smoothed across space

186   via a kriging algorithm and visualized as transparency levels of different colors overlaid upon a base map

187   from Natural Earth (naturalearthdata.com). The results were clipped to the breeding range using a

188   shapefile (NatureServe 2012), making use of the R packages *sp*, *RGDAL*, *raster,* and *TESS3* (Caye et al.,

189   2016; Bivand et al., 2014; Hijmans et al., 2020; Pebesma et al., 2020). The transparency of colors within

190   each genetic group was scaled so that the highest posterior probability of membership in the group

191   according to STRUCTURE is opaque and the smallest is transparent, creating a spatially-explicit map of

192   genomic clustering, or the genoscape.

193

194   *Panel validation and identification of population-specific wintering areas*

195   The accuracy of our baseline for assignment of individuals to the 7 genetically identifiable using the 96-

196   SNP panel was evaluated via *leave-one-out* cross validation in RUBIAS (Moran & Anderson, 2018). We

197   then used RUBIAS to identify the most likely breeding population of origin for wintering samples.

198   Assignments of wintering individuals with high certainty (a posterior probability > 0.8) were color coded

199   by genetic group, mapped to the genoscape (with jittering to avoid overprinting), and used in the

200   downstream analysis of seasonal niche breadth.

201

202 *Seasonal niche breadth and overlap*

203 We modeled the realized seasonal climatic niches of the willow flycatcher as a whole as well as for each

204 of the four main genetically distinct groups (Southwest, Pacific NW, Interior West, and East) separately

205 (Code and data available at: DOI:10.5281/zenodo.4656570). The three additional genetically identifiable

206 groups in the Kern, Southern CA, and the White Mountains, lacked sufficient data to characterize niche

207 breadth and were therefore removed from subsequent analyses. Total niche area as well as the degree of

208 overlap between breeding and wintering grounds was calculated using the modeling framework described

209 in (Broennimann et al., 2012). Selection of climate variables for the present study was directly informed

210 by the results of Ruegg et al (2018) who tested the association between 24 different temperature,

211 precipitation, and landscape variables and found that genetic variation across the breeding range was most

212 strongly associated with temperature and precipitation (mean temperature of the coldest quarter, max

213 temperature of the warmest month, and precipitation of the driest quarter), but not landscape. Because

214 several of the climate variables in Ruegg et al (2018) were specific to particular times of the year and we

215 wanted our analysis to be more generally applicable across season in temperate and tropical areas (Janzen

216 1967), we selected more general temperature and precipitation variables that were highly correlated with

217 those used in Ruegg et al (20180. More specifically, we obtained monthly temperature and precipitation

218 data from WorldClim 2.0 (Fick & Hijmans, 2017) for breeding months (June–August) and wintering

219 months (November–April) associated with locations of genetically assigned individuals with a posterior

220 probability > 0.8. We selected dates for the wintering period based upon Koronkiewicz et al (2006), but

221 also tested the effect of narrower bounds (Dec – Feb) on the wintering period to ensure that our results

222 were robust to variation in the definition of the wintering period. Climate data was extracted on a grid of

223 equal-area hexagons ~55km wide (Sahr et al., 2003), covering the Western Hemisphere (>30°W). In each

224 hexagon containing a genetically identified individual, we computed the average climate values and

225 obtained summer climate by taking the mean values between June and August, and winter climate by

226 taking the mean values between November and April. Seasonal temperature and precipitation were

227 normalized using the z-score across the whole of the study region (i.e. Western Hemisphere). For each

228 season (i.e., breeding and wintering) and each subspecies (i.e., using only individuals genetically assigned

229 to that subspecies) as well as the entire species, we estimated the realized climate niche by projecting the

230 occurrences into a climate space defined by temperature and precipitation, thus obtaining a cloud of

231 points. Following Broennimann *et al.* (2012), we then used a kernel density function on a 50 x 50 pixel

232 grid super-imposed onto the two-dimensional climate space to estimate niche density. This analysis was

233 conducted using the 'kde2d' function in R, with a bandwidth of 1 and only keeping the top 95% of the

234 density kernel, setting the rest of the pixels to 0. To assess whether these choices of parameter values

235 influence the results, we performed a sensitivity analysis of the kernel density estimation. Specifically,

236   we varied two parameters: the bandwidth of the seasonal density kernel function, and the threshold above

237   which pixels of the density kernel where set to 0, and we assessed the effect of the variation on the results

238   for breeding and wintering niche sizes as well as for seasonal niche overlap. Further, to assess whether

239   our results were significantly influenced by wintering ground sample size, which varies between

240   populations, we performed randomization tests in which we set the total number of samples for the

241   Pacific Northwest, the Interior Northwest and the East to n=12, which is the number of samples available

242   for the Southwest.

243

244   To calculate the total realized niche size as a proxy for niche breadth within each subspecies, we calculated

245   the number of pixels across climate space whose density was above 0 for each season. Niche overlap within

246   a subspecies across seasons as well as between subspecies was computed using Schoener's D metric, which

247   varies between 0 (no overlap) and 1 (complete overlap) (Broennimann *et al.* 2012). To assess the

248   relationship between seasonal niche overlap and migration distance we calculated the average migration

249   distance as the great circle distance between the mean location of breeding individuals (i.e. mean latitude

250   and mean longitude across individuals) and the mean location of wintering individuals for that population.

251   To assess the relationship between the seasonal niche overlap and breeding range size we calculated the

252   number of total number of hexagons within the genetically defined breeding range of each subspecies as

253   depicted in Fig. 1.

254

255   To test whether the degree of niche tracking for each population was significantly different from random,

256   we used a niche similarity analysis adapted from niche similarity tests proposed by Broennimann *et al.*

257   (2012). Specifically, we compared the observed seasonal niche overlap metric (D) with seasonal niche

258   overlap metrics simulated for alternative migration destinations. This was done by shifting randomly the

259   population's breeding ground within the species' breeding range and computing the resulting D metric

260   between the observed winter niche and the breeding niche of the shifted breeding ground. To shift the

261   breeding ground, we first selected an individual *i* randomly sampled among all the breeding individuals

262   available in our dataset. Then we selected N individuals (N corresponding to the observed number of

263   breeding individuals for that population) using the probability of being sampled $P_s = 1/rank(d_{iN_j})^2$,

264   where N_j is individual j among the N individuals sampled; d_{iN_j} is the great circle distance between

265   individual *i* and individual N_j; and $rank(d_{iN_j})$ is the rank of d_{iN_j} among all d_{iN}. This sampling procedure

266   ensures that the breeding individuals sampled are clustered together in space to form a realistic simulated

267   breeding ground of the population. We shifted the breeding ground of populations while keeping their

268   wintering ground as observed because (i) the wintering range of Willow Flycatcher is much more restricted

269   than its breeding range and contains a significantly smaller pool of individuals to sample from, and (ii) it

270   follows how observed migratory connectivity was determined, i.e. by assigning wintering individuals to

271   genetically distinct populations on the breeding ground. We repeated the procedure of shifting the

272   population's breeding ground 1000 times, each time recording the simulated D metric. To assess statistical

273   significance, i.e. whether the population is tracking its climatic niche more than random, we computed a p-

274   value investigating whether the observed niche overlap D_{obs} is higher than 95% of the simulated niche

275   overlaps D_{sim}. We also calculated the standardized effect size $E_D = \frac{D_{obs} - mean(D_{sim})}{sd(D_{sim})}$ associated with the p-

276   value.

277

278   *Demographic analysis*

279   We used data from the North American Breeding Bird Surveys (BBS) (Sauer et al. 2017) to estimate

280   population trends for each of the four subspecies with occurrences on the wintering grounds. Raw data

281   was downloaded from https://pwrc.usgs.gov/BBS/RawData on July 10, 2019. We selected only

282   observations that represented a single run per year, with no replicated efforts (RPID=101) and conditions

283   that meet BBS criteria (RunType=1). Only routes in which at least one individual Willow Flycatcher was

284   observed were used for analysis. A shapefile representing geographical boundaries for the four

285   populations was used to assign each route to a population.

286

287   To estimate trends in relative abundance since 1968, we used the Bayesian hierarchical model presented

288   in Link and Sauer (2002). This model includes a random effect to account for observer bias. Link and

289   Sauer used physiographic 'strata' as regional units within which they calculate abundance indices and

290   populations trends. We substituted these strata with our four genetically-informed populations. The BBS

291   data is then fit using Markov chain Monte Carlo methods and abundance indices and trends are calculated

292   from the model's parameters.

293

294   Annual stratum-specific abundance index (n) in strata i at time t is estimated as:

295

296                               $n_{i,t} = z_i \exp(S_i + \beta_i(t - t^*) + \gamma_{i,t})$

297

298   where S_i, β_i, and $\gamma_{i,t}$ are the intercept, slope, and year effects for a particular stratum and z_i is the proportion

299   of routes on which the species has been observed. This metric cannot be compared across stratum, but

300   indices for stratum totals can be calculated by multiplying by the stratum area ($N_{i,t} = A_{i,t}n_{i,t}$). To obtain an

301   overall abundance index, we summed stratum totals across the four populations, assuming that

302   contributions from very small genetic populations would be negligible.

303

Population trend for each population as well as for the whole species is calculated as $100(B_i - 1)$ %

between 1968 (t_a) and 2015 (t_b):

$$B_i = \left\{ \frac{N_{i,t_b}}{N_{i,t_a}} \right\}^{1/(t_b - t_a)}$$

Results

Genome-wide population genetic structure

PCA analysis of 175 breeding individuals at 104,626 SNP loci revealed support for genetic differentiation
between the 4 main subspecies, *E. t. extimus* (Southwest), *E. t. brewsteri* (Pacific Northwest), *E. t.*
adastus (Interior Northwest), and *E. t. trailli* (East; SI Fig. 1). Further, our analysis supports the existence
of sub-differentiation within the currently defined range of *E. t. extimus,* with the White Mountains, Kern,
San Diego and being more closely aligned with *E. t. brewsteri* and *E. t. adastus* than the remainder of the
Southwest (SI Fig. 1). Because downstream genoscape construction was based on a subset of highly
divergent SNPS which do necessarily not reflect genome wide patterns of gene flow, we calculated
pairwise F_{ST} between the seven groups apparent within the PCA using the genome-wide data. Pairwise F_{ST}
analyses suggest that highest degree of genetic divergence was between the East and all other pairwise
comparisons (Table 1; F_{ST} range = 0.064 – 0.09), apart from between East and Interior Northwest which
was lower (F_{ST} = 0.036). Comparisons between the White Mountains and the Southwest (F_{ST} = 0.067),
Kern and the Southwest (F_{ST} = 0.066), and the White Mountains versus Kern and Southern California (F_{ST}
= 0.058 and 0.059, respectively) were the next most divergent. The Southwest was also strongly
differentiated from the Pacific Northwest and to a lesser degree the Interior Northwest (F_{ST} = 0.059 and
0.048, respectively), with the lowest levels of divergence found between the Interior Northwest and all
other pairwise comparisons (F_{ST} range = 0.009 – 0.032).

Structure analysis and genoscape construction

The willow flycatcher genoscape for this study was created using a subset of SNPs specifically designed
to accentuate groups of individuals within geographic areas that are genetically distinguishable from other
genetically groups for the purpose of linking wintering breeding populations, and therefore the groupings
within the genoscape do not necessarily reflect historic patterns of gene flow across the genome. While
our STRUCTURE analysis revealed that a K value of 4, 5, 6, and 7 populations were biologically realistic
hypotheses for the number of groups within the species (SI Fig. 2), the goal of our analysis was not to
find the most likely value of K, but to identify spatially explicit genetic groups that could be tracked

336   across the full annual cycle, similar to fisheries stock management (McKinney et al., 2019). Thus, we set
337   the number of groups to 7 based on concordance between spatially informative genetic clusters identified
338   in the genome-wide PCA (SI Fig. 1), the STRUCTURE runs based on a limited set of loci (Fig. 1), and
339   the power to assign individuals to groups at k=7 using RUBIAS (SI Table 1). The 7 genetically
340   distinguishable groups, 4 of which were roughly concordant with previously defined subspecies
341   boundaries, were distributed across North America as follows (Fig. 1): Pacific Northwest (green, 1 - 3)
342   corresponded with *E. t. brewsteri*, Kern (red, 4) fell within the current boundary for *E. t. extimus*,
343   Southern California (yellow, 6 and 7) fell within the current boundary for *E. t. extimus*, Interior Northwest
344   (purple, 8-18) fell within the current boundary for *E. t. adastus*, Southwest (orange, 19-27), White
345   Mountain (sky blue, 28) fell within the current boundary for *E. t. extimus* and East (dark blue, 29-37) fell
346   within the current boundary for *E. t. trailli*. From here on we will refer to genetic groups by their
347   geographic rather than subspecies name unless a direct comparison with the subspecies is needed.
348   Sampling location 5, Owen's River at Bishop, did not fall clearly into any one genetic cluster and rather
349   represented a mixture between Interior Northwest, Southern California, and Southwestern groups.
350   Further, a comparison between genetic assignments generated using SNPs from the RADseq and
351   Fluidigm pipelines were concordant suggesting no significant ascertainment bias associated with SNP
352   sub-setting (SI Fig. 2).
353
354   *Identification of population specific wintering areas*
355   Leave-one-out cross validation of our genetic baseline in RUBIAS revealed that the power to assign
356   individuals to groups was high, with the Pacific Northwest having the highest probability of correct
357   assignment (99.7%), followed by the Southwest (98.6%), the East (97.5%), the Interior West (91%), the
358   Kern (80%) and Southern California (78%), and the White Mountains (70%) (SI Table 3). The majority
359   of the incorrect assignments in the White Mountains were to the surrounding populations in the
360   Southwest, while the majority of the incorrect assignments in Southern California and the Kern were from
361   neighboring populations in the Kern and Pacific Northwest, respectively. Higher mis-assignment rates in
362   the Kern, Southern California and the White Mountains are likely due to admixture with neighboring
363   groups, indicating these may be areas of hybridization between subspecies. Subsequent assignment of
364   wintering individuals to genetically distinct breeding groups using RUBIAS indicated that Pacific
365   Northwest birds winter from western Mexico to Costa Rica, Interior West breeders winter from
366   Guatemala south to Panama, Eastern breeders winter from Costa Rica to Ecuador, and Southwestern
367   breeders are restricted to Costa Rica and Nicaragua (Fig. 1b; SI Table 2). We did not detect any Kern,
368   White Mountain, or Southern California breeders on their wintering grounds which is not surprising given

369   the low population sizes in those regions and the correspondingly low probability of detection outside of

370   the breeding range.

371

372   *Seasonal climate niche breadth and overlap*

373   An analysis of seasonal climate niche breadth revealed that while breeding niches within the willow

374   flycatcher are similar in size, wintering niches sizes are more variable (Fig. 2; Table 2). Specifically, the

375   wintering niche of the Eastern group is around twice as large the wintering niche of the Southwest and

376   Pacific Northwest group (Fig. 2; Table 2). This is mainly driven by long-distance migratory individuals

377   of the Eastern group found as far south as Ecuador, generating wide variation along the precipitation axis.

378   We acknowledge that sampling gaps on the wintering grounds limit our ability to fully characterize the

379   wintering niche of Interior Northwest and Easter populations which likely winter in unsampled areas of

380   the northern Andes. This being the case, we also acknowledge that inclusion of additional samples from

381   these regions would either maintain or increase the wintering niche size for each of these groups and

382   would not significantly change the interpretation of our results. Calculation of niche overlap revealed that

383   while the willow flycatcher as a species tracked its climate niche rather closely throughout the year

384   (Schoener's D = 0.53; Fig. 2d; Table 2), there was variation in the amount of niche overlap below the

385   species level. In particular, the Southwestern group demonstrated the highest niche overlap between

386   breeding and wintering areas (Schoener's D = 0.65; Fig. 2d; Table 2), the Eastern group demonstrated the

387   lowest niche overlap across seasons (Schoener's D = 0.06), and the Interior Northwest and Pacific

388   Northwest groups fell in between the upper and lower extremes (Schoener's D = 0.22 for both). These

389   results were robust to variations in parameter values associated with the kernel density estimation (SI Fig

390   3a), as well as to variations in boundaries set on the length of the wintering period (SI Fig 4). Further

391   randomization tests in the Pacific Northwest, Interior West, and East confirmed that niche overlap was

392   not significantly influence by wintering ground sample size (SI Fig 3b).

393

394   Comparison of niche breadth (calculated as the total niche area on breeding and wintering grounds) to the

395   degree of niche overlap revealed an inverse relationship, with higher niche overlap between breeding and

396   wintering areas found in populations with lower overall niche breadth like the Southwest (Table 2). In

397   addition, migration distance and breeding range size also varied by genetic group, with migration distance

398   and the breeding range being inversely correlated to the degree of seasonal niche overlap across genetic

399   groups (Table 2; SI Fig. 5a&b). In addition, niche similarity tests show that the southwest population is

400   tracking its climatic niche throughout the year better than random given the availability of climate across

401   the species distribution (Table 2). However, the niche similarity tests also show that the three other

402   populations are not significantly tracking their climatic niche throughout the year, and have negative

403   effect sizes. The east and interior northwest populations in particular have relatively high negative effect
404   sizes indicating that they tend to be closer to being niche switchers rather than niche trackers, while the
405   interior west population falls somewhere in between.
406
407   *Demographic analysis*
408   Overall, the demographic analysis revealed that while the species as a whole has been declining,
409   abundance trends vary by genetically distinct group. In particular, a comparison in the % change between
410   1968 and 2015 suggests that while species as a whole has declined slightly (-1.26, CI: -1.60% to -0.94%),
411   there has been no significant change in the Eastern population (0.36%, CI -0.02% to 0.75%), a significant
412   decrease in the Interior NW (-1.83%, CI -2.50% to -1.16%) and the Pacific NW (-2.01%, CI: -2.53 to -
413   1.51%), and no detectable difference in the endangered Southwestern group which had already declined
414   prior to the start of the survey in 1968 (Fig. 2c). A comparison between population trends and niche
415   breadth support the idea that groups with narrower niches across seasons have been declining more
416   dramatically or, in the case of the Southwest group had previously declined to the point of being federally
417   endangered, while groups with broader niche across seasons have remained stable.
418
419   **Discussion**
420
421   Recent research suggests over ~2.9 billion birds have been lost from North America since the 1970's
422   (Rosenberg et al., 2019), representing a staggering and largely unexplained loss of biological diversity.
423   While advances in migrant tracking technology have provided new insights into geographic regions
424   important to population declines in some migratory birds (Kramer et al., 2018), we still lack basic
425   knowledge of how fundamental aspects of avian ecology may interact with other stressors to promote
426   resiliency to environmental change. Here we demonstrate how mapping niche breadth across seasons
427   within genetically distinct populations of a migratory bird yields important insights into the relationship
428   between climate specificity and threatened status. Our results show that genetically distinct populations
429   of the willow flycatcher with narrower total climate niches demonstrate high climate niche overlap
430   between breeding and wintering areas, while genetically distinct populations with broader total niches
431   have low climate niche overlap across seasons. Remarkably, when paired with population-specific
432   demographic trend data since the late 1960s, we find that populations with narrower climate niches across
433   seasons are already endangered or steeply declining, while populations with broader climate niches across
434   seasons have remained stable in recent decades; a pattern that would have been masked by a species-level
435   only analysis. While further work across species and populations is needed to assess the generality of our
436   findings, this work highlights the importance of quantifying niche breadth within species across the

437   annual cycle when attempting to understand the factors that facilitate or constrain the response of locally
438   adapted migratory populations to rapid environmental change.
439
440   *Niche tracking and ecological divergence across seasons*
441   Climate niche tracking across seasons provides the potential for the evolution of specialization to a
442   narrow set of climate optima, but such hypotheses are difficult to investigate in migratory animals without
443   genetic and tracking data below the level of species. We use a genome-wide genetic approach to
444   quantifying breeding and wintering climate niches in the willow flycatcher and find that while the species
445   as a whole occupies a broad breeding niche with relatively high levels of seasonal niche tracking, the
446   degree of niche tracking within genetically distinct populations increases with increasing climate
447   specialization. In particular, the Southwestern group has the smallest total niche breadth and the highest
448   degree of seasonal niche overlap, while the Eastern group has the broadest total niche and the lowest
449   degree of seasonal niche overlap. When combined with previous work showing that genome-wide
450   genetic variation is more strongly tied to climate in the southwest than in the east (Ruegg et al., 2018), our
451   results point to the idea that intraspecific variation in the extent of climate niche tracking across seasons
452   may accelerate the process of ecological specialization in some groups, while promoting ecological
453   generalization in others . The work presented here represents an important first step towards studying the
454   process of natural selection across the annual cycle by providing a framework for understanding the
455   extent to which genetically distinct breeding populations are exposed to similar or contrasting
456   environmental conditions on their breeding and wintering grounds.
457
458   In addition to providing a framework for understanding the relationship between niche tracking and local
459   adaptation, the increased clarity provided by our population-level analysis of niche tracking suggests that
460   mixed evidence regarding the extent to which species track or switch their niche across seasons may in
461   part be due to a failure to match the appropriate tracking tool with the spatial scale of the question. On
462   one end of the spectrum, species level analyses may be too coarse in scale to quantify niche breadth when
463   genetically distinct populations vary in climate tolerances (Boucher-Lalonde et al., 2014; Gómez et al.,
464   2016b; Joseph & Stockwell, 2000; Laube et al., 2015; Martínez–Meyer et al., 2004; Nakazawa et al.,
465   2004; Zurell et al., 2018). On the other end of the spectrum, fine scale movement data provided by GPS
466   tags (Fandos et al., 2020) may lack the genetic backdrop necessary identify how individual movements fit
467   within the context of locally adapted populations. Alternatively, our results suggest that a genomic
468   approach to mapping seasonal climate niches can illuminate key linkages between climate tracking, local
469   adaptation, and niche breadth that can be used to help shed light on the evolution of climate specialization
470   across the annual cycle.

471

Niche breadth and vulnerability to climate change

The willow flycatcher is an excellent model for exploring the relationship between niche breadth and population level vulnerability to climate change because past work provides support for the existence of local adaptation to climate across the breeding range (Ruegg et al 2018), but the present study provides the first demonstration of a method for quantifying the climate niche of locally adapted populations across breeding and wintering grounds. Thuiller (2005) highlights four main hypotheses regarding which groups should be more sensitive to climate change, including groups with: (1) marginal distributions outside of the mean climate conditions (Swihart et al 2003), (2) narrow niche breadth (specialist species) (Brown 1995), (3) restricted distributions (Johnson et al 1998), and (4) distributions within regions strongly exposed to climate change. Here we find that the endangered southwestern willow flycatcher fits all 4 climate sensitivity criteria – previous work demonstrated that genetic diversity is significantly associated with climate variables that fall outside of the mean climate conditions (Ruegg et al 2018; Figure 2a), its highly fragmented breeding range is at the edge of the species distribution where the intensity of summer heat waves is most pronounced (Smith et al., 2013), and here we show it has the narrowest total niche breadth of the 4 main genetic groups across breeding and wintering grounds. In contrast, the Eastern population of the willow flycatcher demonstrates the characteristics of a climate resilient population – previous work demonstrated that genetic diversity is significantly associated with mean climate variables (Ruegg et al 2018; Figure 2a), its broad, northern distribution is predicted to be less susceptible to intense summer heat waves (Smith et al, 2013), and here we show it has the broadest total niche breadth of the 4 main groups across seasons. As a result, sensitivity to climate change may help explain why population numbers have remained low in the southwest, despite concentrated recovery efforts over the last decade, while population numbers in the east have not changed significantly. Indeed, while we only have 4 populations and cannot test whether the relationship between niche breadth and population trends are statistically significant, it remains striking that across the four main groups where niche breadth could be calculated, we see a trend toward steeper declines or, in the case of the already endangered southwestern willow flycatcher, greater vulnerability, with increasing climate specialization. The trend towards greater vulnerability to climate change in the southwestern willow flycatcher mirrors the results from Ruegg et al (2018) which predicted significantly higher mismatches between current and future gene-environment relationships in the southwestern population. Thus, in combination with other anthropogenic disturbances such as loss of critical breeding habitat, having a narrow range of climate optima may further exacerbate losses in already vulnerable populations. Overall, this work more generally highlights the importance of understanding the extent of climate specificity within genetically distinct populations across time and space when attempting to prioritize conservation in a rapidly changing world. Future work will focus on

505 assessing the relationship between niche breadth and population trends in a multi-species comparative
506 framework in order to test the generality of patterns observed herein.
507
508 In addition to helping clarify the degree of climate specialization across breeding and wintering grounds,
509 a genomic approach to niche tracking can also provide insights into the capacity for populations to shift
510 the location of breeding and wintering ranges in response to climate change. Comparative analyses across
511 many species using range maps suggest that the extent to which birds track their niche between breeding
512 and wintering ranges depends largely on factors such as range size, habitat specificity, and migration
513 distance (Somveille et al., 2019; Zurell et al., 2018). Here we find that niche breadth increases with
514 migration distance and breeding range size, supporting hypotheses raised by Somveille et al (2019) that
515 where birds migrate may result from tradeoffs between the degree of specialization, the cost of migration,
516 and the availability of resources. Thus, while specialized populations like the southwestern willow
517 flycatcher may outcompete generalists like the Eastern willow flycatcher for geographically closer
518 wintering ranges, this may come at the cost of reduced flexibility to alter their ranges in the face of rapid
519 environmental change. In turn, while the Eastern willow flycatcher may have greater access to resources
520 in more southern wintering ranges as well as greater flexibility in climate tolerances across the annual
521 cycle, this flexibility may come at the cost of a longer migratory journey. Overall, differences in the
522 degree of flexibility to alter breeding and wintering ranges in the face of environmental change may help
523 explain why willow flycatchers in the east have remained stable in recent decades while willow
524 flycatchers in the southwest are endangered. Future work looking at the frequency of changes in
525 migratory pathways within populations with different levels of specialization would test the potential link
526 between flexibility in migratory routes and resilience to environmental change.
527
528 *Conclusions*
529 The extent to which migratory animals track climate conditions across the annual cycle has important
530 consequences for understanding the link between climate specificity and population vulnerability. Here
531 we show that genetically distinct populations of the willow flycatcher that are declining or already
532 endangered occupy narrow climate niches across seasons, while genetically distinct populations that have
533 remained stable in recent decades occupy broad climate niches across seasons. While increased niche
534 specialization may help individuals defend more geographically proximate wintering locations, it may
535 also reduce a population's flexibility to alter migratory routes in the face of global environmental change.
536 By linking ecological genomics with population specific migratory tracking, we provide important first
537 step in the ability to study the process of natural selection across the annual cycle. Overall, this work
538 highlights the value of a genomic approach to mapping migratory pathways when the goal is to

539 understand factors that facilitate or constrain the response of locally adapted populations to rapid
540 environmental change.

541

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748 **Figure Legends**

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750 **Figure 1. Willow Flycatcher Genoscape.** Population genetic structure in Willow Flycatchers across the
751 breeding grounds and corresponding population specific wintering locations. A) STRUCTURE analysis
752 revealed support for the existence of 7 genetically distinct groups across the breeding range. Numbers at
753 the top of the STRUCTURE plot correspond to locations on map and in Table 1. Numbers in the SSW
754 population are not consecutive because data generated using RADseq and SNP genotyping were lumped
755 together to test for consistent results (SI Figure 2). B) The posterior probability of group membership
756 from STRUCTURE was visualized as transparency levels of different colors overlaid upon a base map
757 from Natural Earth (naturalearthdata.com) and clipped to the species breeding range using a shapefile
758 (NatureServe 2012). Wintering individuals are color coded based upon assignments to breeding group
759 using the program RUBIAS. Points on the wintering grounds are jiggered for visualization purposes.
760 Wintering sample location details and associated assignments can be found in SI Table 1.

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763 **Figure 2. Realized Climate Niche and Population Trends for the Willow Flycatcher**. A) Maps of the
764 sampling distribution for the species and each of the 4 main genetically defined groups separately.
765 Geographic regions on the breeding grounds were defined according the genoscape map in Figure 1.
766 Triangles indicate samples that were identified to each genetically distinct group, but fell outside of the
767 genoscape boundaries, while circles fell within the genoscape boundaries. B) The realized climate niche
768 occupied by each group on its breeding and wintering range as well as across both seasons. C)
769 Demographic trends estimated with BBS data showing declines in the Pacific NW and Interior NW, but
770 no significant change in the East. The Endangered Southwestern group is reported to have declined prior
771 to the start of the survey. D) Niche overlap for the species as well as each genetically distinct group.

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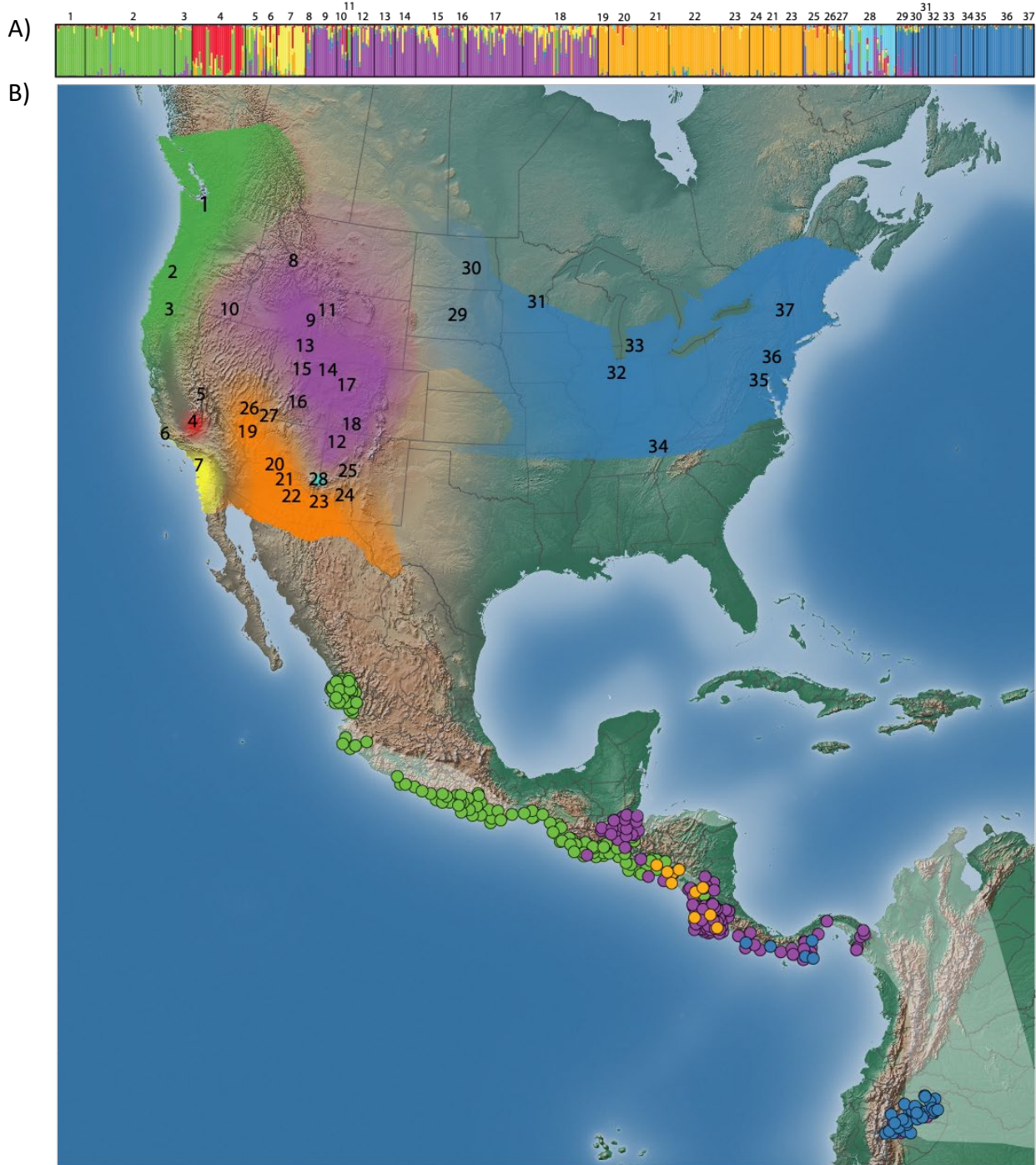
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Figure 1. Willow Flycatcher Genoscape.
Population genetic structure in Willow Flycatchers across the breeding grounds and corresponding population specific wintering locations. A) STRUCTURE analysis revealed support for the existence of 7 genetically distinct groups across the breeding range. Numbers at the top of the STRUCTURE plot correspond to locations on map and in Table 1. Numbers in the SSW population are not consecutive because data generated using RADseq and SNP genotyping were lumped together to test for consistent results (SI Figure 2). B) The posterior probability of group membership from STRUCTURE was visualized as transparency levels of different colors overlaid upon a base map from Natural Earth (naturalearthdata.com) and clipped to the species breeding range using a shapefile (NatureServe 2012). Wintering individuals are color coded based upon assignments to breeding group using the program RUBIAS. Points on the wintering grounds are jiggered for visualization purposes. Wintering sample location details and associated assignments can be found in SI Table 1.
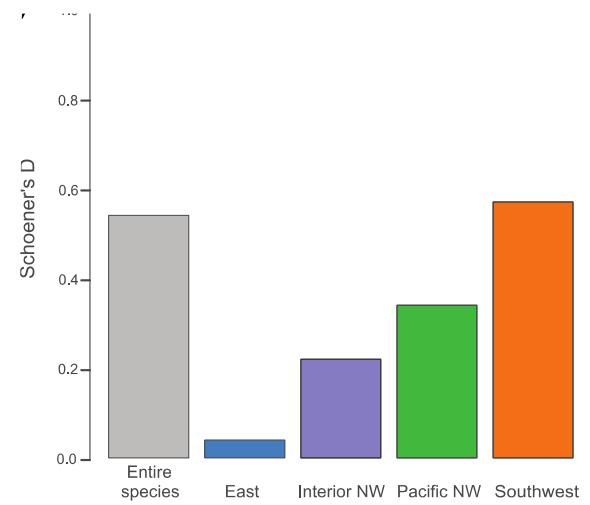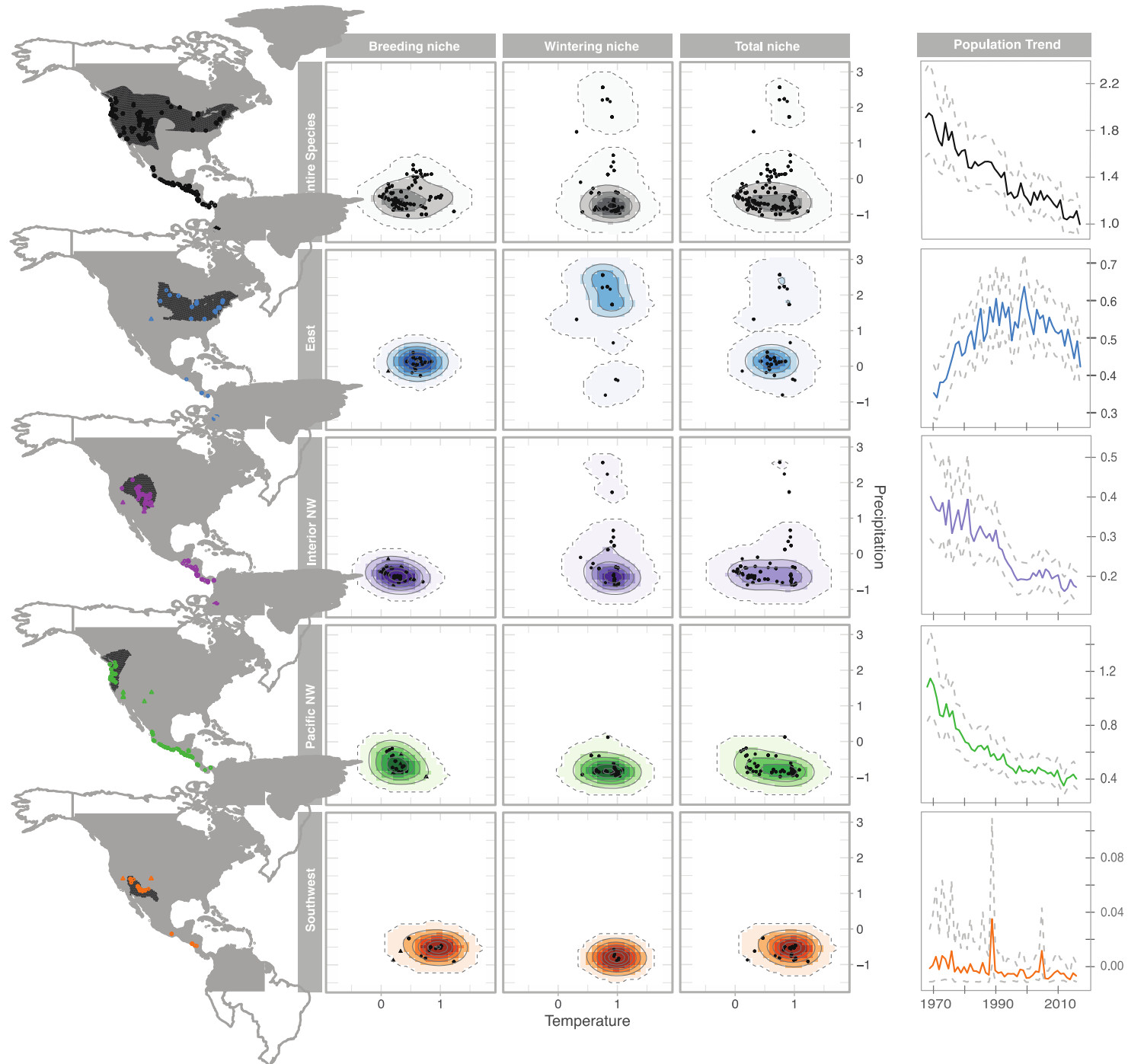
Figure 2. Realized Climate Niche and Population Trends for the Willow Flycatcher. A) Maps of the sampling distribution for the species and each of the 4 main genetically defined groups separately. Geographic regions on the breeding grounds were defined according the genoscape map in Figure 1. Triangles indicate samples that were identified to each genetically distinct group, but fell outside of the genoscape boundaries, while circles fell within the genoscape boundaries. B) The realized climate niche occupied by each group on its breeding and wintering range as well as across both seasons. C) Demographic trends estimated with BBS data showing declines in the Pacific NW and Interior NW, but no significant change in the East. The Endangered Southwestern group is reported to have declined prior to the start of the survey. D) Niche overlap for the species as well as each genetically distinct group.

Table 1. Location of breeding samples with number of individuals sequenced using RADseq and the number of individuals genotyped using SNP assays in each population. Map labels refer to the corresponding numbers on Figure 1.

Map label	Near Town	State	Latitude	Longitude	Num RADseq	Num SNP
1	Mirror Lake	WA	47.746	-122.857	11	6
2	Austoria Airport	OR	43.893	-123.259	19	33
3	Seiad Valley	CA	41.375	-122.143	6	4
4	South Fork Kern River	CA	35.659	-118.462	13	18
5	Owen's River at Bishop	CA	37.408	-118.480	0	12
6	Santa Ynez River	CA	34.617	-120.180	0	6
7	San Diego	CA	33.268	-117.165	6	11
8	Hamon Memorial	MT	46.070	-114.126	4	1
9	Mink Creek	ID	43.119	-111.856	13	0
10	Malheur NWR	OR	42.833	-118.867	6	0
11	Fall Creek	WY	43.339	-110.810	0	3
12	Shiprock	NM	35.733	-107.953	0	13
13	Logan Canyon	UT	41.766	-111.706	0	12
14	Stewart Lake	UT	40.314	-109.311	6	6
15	East Canyon Reservoir	UT	40.170	-111.347	11	14
16	Fish Lake	UT	38.498	-111.591	0	5
17	Arapahoe National Wildlife Ref	CO	39.610	-107.467	0	32
18	Clear Creek	CO	37.493	-106.878	0	44
19	Lower Colorado River	AZ	36.050	-114.733	0	5
20	Camp Verde	AZ	34.558	-111.841	0	17
21	Roosevelt Lake	AZ	33.767	-111.241	10	18
22	San Carlos Reservation	AZ	33.197	-110.440	0	30
23	San Pedro/Gila River confluence	AZ	32.975	-110.769	14	17
24	East Pima site	AZ	32.828	-109.705	0	8
25	Los Ojos/Parkerview Fish Hatchery	NM	33.379	-108.182	0	14
26	Pahranagat Lake NWR	NV	37.317	-115.130	0	6
27	St. George	UT	37.108	-113.738	0	4
28	White Mountains	AZ	34.000	-109.000	13	17
29	Little White River Rec. Area	SD	44.062	-99.853	8	2
30	Arrowwood NWR	ND	47.213	-98.842	0	3
31	Elm Creek	MN	45.133	-93.450	2	4
32	Willow Slew	IN	40.983	-87.525	4	0
33	Vicksburg	MI	42.424	-85.344	4	11
34	Cross Creek	TN	36.455	-85.243	0	7
35	Lilypons	MD	39.268	-77.131	0	8
36	Bethlehem	PA	40.666	-75.505	21	0
37	Black Creek SWMA	NY	43.135	-73.812	4	2
Total					**175**	**393**

Table 2. Location of wintering ground samples and summary of population assignments at each site using RUBIAS.

Country	Location	Latitude	Longitude	East	Interior NW	Pacific NW	Southwest	Total
CR	Puerto Jimenez	8.516	-83.294	1	2	0	0	3
CR	Coto/Coto 44	8.562	-82.958	1	3	0	0	4
CR	Playa Caleta	9.759	-85.266	0	1	0	1	2
CR	Chomes	10.069	-84.899	0	27	2	0	29
CR	Solimar	10.291	-85.166	0	3	0	0	3
CR	Santa Cruz	10.329	-85.650	0	5	0	1	6
CR	Bolson	10.355	-85.420	0	31	5	1	37
EC	Jatun Sacha	-1.086	-77.616	2	0	0	0	2
EC	Jaguar Lodge	-1.070	-77.610	6	2	0	0	8
EC	Hacienda Johanna, Tena	-0.996	-77.813	6	1	0	0	7
EC	Yachana	-0.836	-77.221	2	0	0	0	2
EC	La Selva	-0.500	-76.370	4	1	0	0	5
EC	Sani	-0.476	-76.313	7	0	0	0	7
EC	Sacha	-0.470	-76.460	1	0	0	0	1
EC	Coca/Coca River	-0.456	-76.993	6	1	0	0	7
EC	Sani Lodge, Yuturi	-0.423	-76.285	3	2	0	0	5
EL	Jocotal E. (El Torre)	13.319	-88.243	0	0	2	0	2
EL	Jocotal W. (Desague S.)	13.326	-88.270	0	1	1	0	2
EL	Olomega RR	13.332	-88.020	0	0	1	0	1
EL	Nancuchiname	13.341	-88.719	0	0	6	0	6
EL	San Juan SE	13.368	-88.160	0	0	1	0	1
EL	La Barra de Santiago	13.692	-89.943	1	1	4	0	6
GUAT	Puerto San Jose	13.930	-90.913	0	0	14	0	14
GUAT	La Avallena	13.940	-90.440	0	0	2	0	2
GUAT	Finca Las Ojas, Chiquimulilla	14.015	-90.393	0	0	2	0	2
GUAT	San Sebastian	14.574	-91.633	0	1	9	0	10
GUAT	Finca Nueva, Los Amates	15.247	-89.104	0	13	2	0	15
GUAT	Los Amates B	15.250	-89.050	0	1	0	0	1
GUAT	Los Amates C	15.260	-89.070	0	1	0	0	1
GUAT	Quiche	15.425	-90.863	0	2	0	0	2
GUAT	Finca La Cabana, El Estor	15.518	-89.300	0	10	4	0	14
MX	Lag. Pampa el Cabildo, Chis	14.723	-92.420	0	0	6	0	6
MX	San Isidro, Chis	15.703	-93.381	0	0	1	0	1
MX	Rio Copalita, Oax	15.793	-96.050	0	0	7	0	7
MX	Puerto Escodido, Oax	15.808	-97.002	0	0	1	0	1
MX	La Barra, Chis	15.890	-93.710	0	0	7	0	7
MX	Santa Rita, Oax	16.300	-94.505	0	0	1	0	1
MX	Cuanjinicuilapa, Gro	16.470	-98.413	0	0	6	0	6
MX	Rio Chila, Oax	16.500	-98.409	0	0	1	0	1
MX	Marquelia, Gro	16.583	-98.826	0	0	3	0	3
MX	Jose la Garzona	16.640	-96.656	0	0	4	0	4
MX	La Barra Vieja,Gro	16.721	-99.600	0	0	5	0	5
MX	L. de Piterro (near Tecpan)	17.175	-100.607	0	0	2	0	2

MX	Ixtapa, P. Linda, Gro	17.690	-101.640	0	0	3	0	3
MX	East Habillal, P Azul, Mich	18.018	-102.372	0	0	1	0	1
MX	Manzanillo Airport Marshe:	19.162	-104.559	0	0	2	0	2
MX	Rio Aguacate, Jalisco	19.220	-104.640	0	0	1	0	1
MX	Rio Cuixmala, Jalisco	19.398	-104.969	0	0	2	0	2
MX	San Blas - Crocodila, Nayari	21.528	-105.220	0	0	3	0	3
MX	Quimichi, Novillero, Nayaril	22.395	-105.550	0	0	38	0	38
NICA	Laguna la Tisma	12.086	-85.431	0	8	1	2	11
NICA	Laguna de Tisma west	12.100	-85.980	0	2	0	0	2
NICA	Reserva Natural Peninsula (	12.250	-86.340	0	1	1	1	3
NICA	Finca de San Miguel	12.798	-87.158	0	1	0	2	3
NICA	Cosiguina	12.880	-87.490	0	2	6	1	9
NICA	Caba"a los Pozo	12.887	-87.497	0	2	2	3	7
NICA	Potosi	12.950	-87.490	0	0	2	0	2
NICA	La Piscina, Cosiguina	12.955	-87.493	0	0	1	0	1
NICA	Lago de Apanas	13.190	-85.960	0	2	0	0	2
PA	Laguna Naranja	7.449	-80.376	2	4	0	0	6
PA	Pese	7.887	-80.541	1	6	0	0	7
PA	El Real	8.106	-77.723	0	5	0	0	5
PA	San Felix	8.173	-81.867	0	2	0	0	2
PA	Tocuman Marsh	9.071	-79.376	0	2	0	0	2
Total				**43**	**146**	**162**	**12**	**363**

Table 3. Pairwise genome-wide F$_{ST}$ between genetically distinct groups calculated with all 105,000 SNP loci.

Population	Interior NW	Kern	Pacific NW	Southern CA	Southwest	White MT
East	0.0365	0.0779	0.0641	0.0774	0.0906	0.0645
Interior NW	-	0.0289	0.0096	0.0330	0.0488	0.0314
Kern	-	-	0.0272	0.0508	0.0669	0.0591
Pacific NW	-	-	-	0.0402	0.0594	0.0412
Southern CA	-	-	-	-	0.0479	0.0603
Southwest	-	-	-	-	-	0.0680

Table4. Niche Statistics for the species as a whole and each genetically distinct group.

Population	Breeding Niche Size	Wintering Niche Size	Niche Breath (total niche area)	Seasonal Niche Overlap	Migration distance	Breeding Range Size
Species	318	481	458	0.53	3520	2547
East	175	470	456	0.06	4581	1003
Interior West	183	401	409	0.22	4024	460
Pacific NW	208	209	267	0.22	3871	309
Southwest	199	152	200	0.65	3105	230

Table5. Niche overlap overall between populations across seasons.

	East	Interior NW	Pacific NW	Southwest
East	–	–	–	–
Interior NW	0.16	–	–	–
Pacific NW	0.14	0.87	–	–
Southwest	0.2	0.28	0.29	–

SI_Table1. Assignment of Willow Flycatchers of known origin back to breeding population using rubias, with 96 SNPs. Population names are listed in Table 1 and the colors indicate the genetic group (Fig. 1).

Population (Fig. 1, Table 1)	Pacific Northwest	Kern	Southern California	Interior West	Southwest	White Mountain	East
1	17	0	0	0	0	0	0
2	47	3	1	1	0	0	0
3	5	1	1	3	0	0	0
4	6	21	4	0	0	0	0
6	0	0	5	1	0	0	0
7	0	0	16	0	1	0	0
8	0	0	0	5	0	0	0
9	1	0	0	12	0	0	0
10	0	0	0	6	0	0	0
11	2	0	0	1	0	0	0
12	0	0	0	12	0	0	1
13	0	0	0	12	0	0	0
14	0	0	0	12	0	0	0
15	0	0	1	24	0	0	0
16	1	0	0	4	0	0	0
17	0	0	0	32	0	0	0
18	1	0	0	41	2	0	0
19	0	0	0	0	5	0	0
20	0	0	0	0	17	0	0
21	0	0	0	0	28	0	0
22	0	0	0	0	30	0	0
23	0	0	0	0	31	0	0
24	0	0	0	0	8	0	0
25	0	0	0	2	12	0	0
26	0	0	0	0	6	0	0
27	0	0	0	0	4	0	0
28	2	0	0	6	0	22	0
29	0	0	0	1	0	0	9
30	0	0	0	1	0	0	2
31	0	0	0	0	0	0	6
32	0	0	0	0	0	0	4
33	0	0	0	0	0	0	15
34	0	0	0	0	0	0	7
35	0	0	0	0	0	0	8
36	0	0	0	0	0	0	21
37	0	0	0	0	0	0	6

Appendix

indiv	Field No.	Band No.	Screen	Sample_type	State	Location Nan	Lat	Long	Stage	Assignment	llection.Locat	Year	Month	Day	Collector.y
1710-46156			fluidigm		WA	Mirror Lake	48.6731	-122.26	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-46158			fluidigm		WA	Mirror Lake	48.6731	-122.26	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-46159			fluidigm		WA	Mirror Lake	48.6731	-122.26	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1590-27284			fluidigm		WA	Fork clearcut	47.9678	-124.4	Breeding	PNW	PNW		NA		Eben Paxton
1590-97285			fluidigm		WA	Fork clearcut	47.9678	-124.4	Breeding	PNW	PNW	1999	7	21	Eben Paxton
1710-46164			fluidigm		WA	Edgwick	47.4689	-121.71	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1590-97284			RAD		WA	Fork clearcut	47.9678	-124.4005	Breeding	PNW	PNW	1999	7	21	Eben Paxton
1710-20539			RAD		WA	Fork clearcut	47.9678	-124.4005	Breeding	PNW	PNW	1999	7	21	Eben Paxton
1710-20540			RAD		WA	Fork clearcut	47.9678	-124.4005	Breeding	PNW	PNW	1999	7	21	Eben Paxton
1710-20541			RAD		WA	Fork clearcut	47.9678	-124.4005	Breeding	PNW	PNW	1999	7	21	Eben Paxton
1710-46165			RAD		WA	Edgwick	47.4689	-121.7109	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46166			RAD		WA	Edgwick	47.4689	-121.71	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46168			RAD		WA	Carbondale	47.089	-122.05	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46169			RAD		WA	Carbondale	47.089	-122.05	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46170			RAD		WA	Carbondale	47.089	-122.0529	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46171			RAD		WA	Carbondale	47.089	-122.05	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-46172			RAD		WA	Carbondale	47.089	-122.05	Breeding	PNW	PNW	1999	7	22	Eben Paxton
1710-20535			fluidigm		OR	Austoria Airp	46.1503	-123.88	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-20536			fluidigm		OR	Austoria Airp	46.1503	-123.88	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-20537			fluidigm		OR	Austoria Airp	46.1503	-123.88	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-20538			fluidigm		OR	Austoria Airp	46.1503	-123.88	Breeding	PNW	PNW	1999	7	20	Eben Paxton
1710-20530			fluidigm		OR	Priem Road	44.7821	-123.38	Breeding	PNW	PNW	1999	7	18	Eben Paxton
08N15593			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2008	7	21	Corissa Crowder, Juan Carlos Valarezo
09N17478			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	NA	PNW	2009	6	22	Herman Arias, Steve Ploetz
09N23231			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2009	7	20	NA
09N23264			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2009	7	20	NA
10N15036			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	NA	PNW	2010	6	22	Ron Taylor
10N15044			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2010	7	20	Ron Taylor
10N15076			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2010	6	22	Ron Taylor
10N15080			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2010	6	22	Ron Taylor
10N15109			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2010	7	20	Ron Taylor
10N15111			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	NA	PNW	2010	7	20	Ron Taylor
10N15156			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2011	6	15	Ron Taylor
11N0853			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	NA	PNW	2011	6	15	Ron Taylor
11N0856			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2011	7	13	Ron Taylor
11N0857			fluidigm		OR	Marion Forks	44.3708	-122.02	Breeding	PNW	PNW	2011	7	22	Ron Taylor
1590-97278			fluidigm		OR	Eugene	44.0572	-123.21	Breeding	PNW	PNW	1999	7	17	Eben Paxton
1710-20524			fluidigm		OR	Eugene	44.0572	-123.21	Breeding	PNW	PNW	1999	7	17	Eben Paxton
100451			fluidigm		OR	Coos	43.295	-124.12	Breeding	PNW	PNW	2006	6	15	Sharon Birks
100471			fluidigm		OR	Coos	43.295	-124.12	Breeding	PNW	PNW	2006	6	14	Sharon Birks
100472			fluidigm		OR	Coos	43.295	-124.12	Breeding	PNW	PNW	2006	6	14	Sharon Birks
113898			fluidigm		OR	Coos	43.295	-124.12	Breeding	PNW	PNW	2006	6	13	Sharon Birks
1590-97275			fluidigm		OR	Rogue River/	42.445	-124.38	Breeding	PNW	PNW	1999	7	16	Eben Paxton
1590-97276			fluidigm		OR	Rogue River/	42.445	-124.38	Breeding	PNW	PNW	1999	7	16	Eben Paxton
1590-97277			fluidigm		OR	Rogue River/	42.445	-124.38	Breeding	PNW	PNW	1999	7	16	Eben Paxton
1710-20522			fluidigm		OR	Rogue River/	42.445	-124.38	Breeding	PNW	PNW	1999	7	16	Eben Paxton
1710-20523			fluidigm		OR	Rogue River/	42.445	-124.38	Breeding	PNW	PNW	1999	7	16	Eben Paxton
07N2015			fluidigm		OR	Ashland	41.63	-122.1	Breeding	NA	PNW	2007	6	12	NA
07N1472			fluidigm		OR	Ashland	42.1997	-122.69	Breeding	PNW	PNW	2007	6	30	Robert I. Frey
07N2010			fluidigm		OR	Ashland	42.1997	-122.69	Breeding	PNW	PNW	2007	6	11	NA
1590-97281			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1590-97282			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1710-20527			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1710-20528			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1710-20529			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1710-20531			RAD		OR	Priem Road	44.7821	-123.3765	Breeding	PNW	PNW	1999	7	18	Eben Paxton
1590-97279			RAD		OR	Finley NWR	44.4091	-123.3471	Breeding	PNW	PNW	1999	7	17	Eben Paxton
1710-20525			RAD		OR	Finley NWR	44.4091	-123.3471	Breeding	PNW	PNW	1999	7	17	Eben Paxton
1710-20526			RAD		OR	Finley NWR	44.4091	-123.3471	Breeding	PNW	PNW	1999	7	17	Eben Paxton
1590-97273			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1590-97274			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20514			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	14	Eben Paxton
1710-20515			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	14	Eben Paxton
1710-20516			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20517			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20518			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20519			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20520			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
1710-20521			RAD		OR	Jones Creek	43.0394	-123.973	Breeding	PNW	PNW	1999	7	15	Eben Paxton
SEIA01			fluidigm		CA	Seiad Valley	41.8403	-123.19	Breeding	PNW	PNW	1999	7	13	Eben Paxton
SEIA02			fluidigm		CA	Seiad Valley	41.8403	-123.19	Breeding	PNW	PNW	1999	7	13	Eben Paxton
1710-20370			fluidigm		CA	Bigelow Mea	41.2583	-121.88	Breeding	PNW	PNW	1998	7	15	Eben Paxton
1710-46313			fluidigm		CA	Bigelow Mea	41.2583	-121.88	Breeding	NA	PNW	1998	7	15	Eben Paxton
1710-20367			RAD		CA	Bigelow Mea	41.2583	-121.8833	Breeding	PNW	PNW	1998	7	15	Eben Paxton
1710-20368			RAD		CA	Bigelow Mea	41.2583	-121.8833	Breeding	PNW	PNW	1998	7	15	Eben Paxton
1710-20369			RAD		CA	Bigelow Mea	41.2583	-121.88	Breeding	NA	PNW	1998	7	15	Eben Paxton
1710-20371			RAD		CA	Bigelow Mea	41.2583	-121.88	Breeding	NA	PNW	1998	7	15	Eben Paxton
1710-46314			RAD		CA	Bigelow Mea	41.2583	-121.8833	Breeding	PNW	PNW	1998	7	15	Eben Paxton
1710-46315			RAD		CA	Bigelow Mea	41.2583	-121.8833	Breeding	PNW	PNW	1998	7	15	Eben Paxton
1890-22763			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2004	5	27	Mary Whitfield
2170-11701			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	4	Mary Whitfield
2170-11702			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2008	7	4	Mary Whitfield
2170-11703			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	11	Mary Whitfield
2170-11704			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2008	7	11	Mary Whitfield
2170-11705			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	11	Mary Whitfield
2170-11707			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	14	Mary Whitfield
2170-11708			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	14	Mary Whitfield
2170-11709			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	PNW	KER	2008	7	19	Mary Whitfield
2170-11710			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	PNW	KER	2008	7	19	Mary Whitfield
2170-11711			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2008	7	20	Mary Whitfield
2170-11713			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2008	8	11	Mary Whitfield
2170-11717			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2009	7	5	Mary Whitfield
2170-11764			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2011	7	6	Mary Whitfield
2290-20008			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2004	7	11	Mary Whitfield
2290-20017			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2004	7	26	Mary Whitfield
2290-20028			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	KER	KER	2005	7	15	Mary Whitfield
2290-20031			fluidigm		CA	South Fork K	35.6594	-118.46	Breeding	NA	KER	2005	7	15	Mary Whitfield	0.58064516
2170-11718			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2009	7	7	Mary Whitfield
2170-11725			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2009	7	13	Mary Whitfield
2170-11726			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2009	7	13	Mary Whitfield
2170-11727			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2009	7	13	Mary Whitfield
2170-11728			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2009	7	19	Mary Whitfield
2170-11753			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	PNW	KER	2010	7	5	Mary Whitfield
2170-11865			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	PNW	KER	2014	6	27	Mary Whitfield
2290-20010			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2004	7	14	Mary Whitfield
2290-20023			RAD		CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2004	8	14	Mary Whitfield

ID	Method	State	Location	Lat	Long	Season	Code1	Code2	Year	Col	Col	Observer
2290-20025	RAD	CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2005	7	2	Mary Whitfield
2290-20029	RAD	CA	South Fork K	35.6594	-118.46425	Breeding	KER	KER	2005	7	15	Mary Whitfield
2290-20034	RAD	CA	South Fork K	35.6594	-118.46425	Breeding	NA	KER	2005	7	26	Mary Whitfield
2290-20066	RAD	CA	South Fork K	35.6594	-118.46425	Breeding	PNW	KER	2005	7	26	Mary Whitfield
1710-46332	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1999	7	9	Eben Paxton
1710-46333	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	PNW	BIS	1999	7	9	Eben Paxton
1710-46334	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1999	7	10	Eben Paxton
1710-46339	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1999	7	9	Eben Paxton
1710-46340	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	PNW	BIS	1999	7	9	Eben Paxton
1710-46341	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1999	7	9	Eben Paxton
1710-46342	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	INW	BIS	1999	7	9	Eben Paxton
1710-46343	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1999	7	10	Eben Paxton
1740-91689	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	SSW	BIS	1998	6	24	Eben Paxton
1740-91690	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1998	6	24	Eben Paxton
1740-91801	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1998	7	14	Eben Paxton
1740-91802	fluidigm	CA	Owen's River	37.4083	-118.48	Breeding	NA	BIS	1998	7	14	Eben Paxton
1590-97329	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	NA	SCA	1997	6	10	Eben Paxton
1590-97330	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	SCA	SCA	1997	6	12	Eben Paxton
1590-97331	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	NA	SCA	1997	6	12	Eben Paxton
1590-97333	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	SCA	SCA	1997	6	12	Eben Paxton
1590-97334	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	NA	SCA	1997	6	14	Eben Paxton
1590-97335	fluidigm	CA	Santa Ynez Ri	34.6167	-120.18	Breeding	SCA	SCA	1997	6	14	Eben Paxton
2640-78801	fluidigm	CA	San Diego	33.2483	-116.79	Breeding	NA	SCA	2010	6	18	Barbara Kus
2640-79003	fluidigm	CA	San Diego	33.2483	-116.79	Breeding	NA	SCA	2010	6	18	Barbara Kus
2640-87052	fluidigm	CA	San Diego	33.2483	-116.79	Breeding	SCA	SCA	2010	8	6	Barbara Kus
2640-87053	fluidigm	CA	San Diego	33.2483	-116.79	Breeding	SCA	SCA	2010	8	6	Barbara Kus
2450-87057	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	SCA	SCA	2011	6	5	Barbara Kus
2540-83432	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	SCA	SCA	2010	6	25	Barbara Kus
2540-83436	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	SCA	SCA	2010	7	6	Barbara Kus
2540-83437	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	NA	SCA	2010	7	6	Barbara Kus
2540-99997	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	SCA	SCA	2010	7	6	Barbara Kus
2580-61407	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	NA	SCA	2010	6	18	Barbara Kus
2580-61408	fluidigm	CA	San Diego	33.2765	-117.37	Breeding	NA	SCA	2010	6	18	Barbara Kus
2450-87066	RAD	CA	San Diego	33.28	-117.37	Breeding	SCA	SCA	2011	7	13	Barbara Kus
2450-87070	RAD	CA	San Diego	33.28	-117.37	Breeding	SCA	SCA	2011	7	23	Barbara Kus
2580-61405	RAD	CA	San Diego	33.28	-117.37	Breeding	SCA	SCA	2010	6	18	Barbara Kus
2580-61406	RAD	CA	San Diego	33.28	-117.37	Breeding	SCA	SCA	2010	6	18	Barbara Kus
2640-78804	RAD	CA	San Diego	33.25	-116.79	Breeding	SCA	SCA	2010	6	18	Barbara Kus
2640-79001	RAD	CA	San Diego	33.25	-116.79	Breeding	SCA	SCA	2010	6	18	Barbara Kus
1590-97499	fluidigm	MT	Hamon Mem	45.95	-114.13	Breeding	INW	INW	1998	6	20	Eben Paxton
1590-97493	RAD	MT	Lee Metcalf N	46.55	-114.1	Breeding	NA	INW	1998	6	19	Eben Paxton
1590-97494	RAD	MT	Hamon Mem	45.95	-114.1333	Breeding	NA	INW	1998	6	20	Eben Paxton
1590-97497	RAD	MT	Hamon Mem	45.95	-114.1333	Breeding	INW	INW	1998	6	20	Eben Paxton
1590-97498	RAD	MT	Hamon Mem	45.95	-114.1333	Breeding	INW	INW	1998	6	20	Eben Paxton
1740-91939	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	11	Eben Paxton
1740-91940	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	11	Eben Paxton
1740-91941	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	11	Eben Paxton
1740-91942	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	11	Eben Paxton
1740-91943	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	13	Eben Paxton
1740-91944	RAD	ID	Mink Creek	42.7507	-112.3923	Breeding	INW	INW	1998	7	13	Eben Paxton
1710-20507	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	INW	INW	1998	7	14	Eben Paxton
1710-20508	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	INW	INW	1998	7	14	Eben Paxton
1740-91946	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	INW	INW	1998	7	14	Eben Paxton
1740-91947	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	NA	INW	1998	7	14	Eben Paxton
1740-91948	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	NA	INW	1998	7	14	Eben Paxton
1740-91949	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	INW	INW	1998	7	14	Eben Paxton
1740-91950	RAD	ID	Fall Creek 2	43.4345	-111.397	Breeding	INW	INW	1998	7	14	Eben Paxton
1710-20366	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	NA	INW	1998	7	10	Eben Paxton
1710-46312	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91796	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91797	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	NA	INW	1998	7	10	Eben Paxton
1740-91798	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91800	RAD	OR	Malheur NW	42.8333	-118.8667	Breeding	NA	INW	1998	7	10	Eben Paxton
1710-20503	fluidigm	WY	Fall Creek	43.3394	-110.81	Breeding	NA	INW	1998	7	13	Eben Paxton
1710-20504	fluidigm	WY	Fall Creek	43.3394	-110.81	Breeding	NA	INW	1998	7	13	Eben Paxton
1710-20505	fluidigm	WY	Fall Creek	43.3394	-110.81	Breeding	INW	INW	1998	7	13	Eben Paxton
1710-46316	fluidigm	NM	Shiprock	36.8667	-108.7767	Breeding	INW	INW	1998	7	24	Eben Paxton
1710-46317	fluidigm	NM	Shiprock	36.8667	-108.7767	Breeding	INW	INW	1998	7	24	Eben Paxton
1740-91687	fluidigm	NM	Tierra Azul	36.3042	-105.5733	Breeding	EST	INW		NA		Eben Paxton
1740-91688	fluidigm	NM	Tierra Azul	36.3042	-105.5733	Breeding	INW	INW	1998	7	9	Eben Paxton
1740-91691	fluidigm	NM	Tierra Azul	36.3042	-105.5733	Breeding	NA	INW	1998	7	10	Eben Paxton
1590-97226	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	INW	INW	1997	6	15	Eben Paxton
1590-97227	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	NA	INW	1997	6	15	Eben Paxton
1590-97229	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	INW	INW	1997	6	15	Eben Paxton
1590-97230	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	NA	INW	1997	6	16	Eben Paxton
1590-97361	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	NA	INW	1997	7	2	Eben Paxton
1590-97362	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	INW	INW	1997	7	2	Eben Paxton
1590-97363	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	INW	INW	1997	7	2	Eben Paxton
1590-97364	fluidigm	NM	Zuni/Nutria D	35.2354	-108.64	Breeding	INW	INW	1997	7	2	Eben Paxton
1590-97399	fluidigm	UT	Logan Canyon	41.928	-111.5602	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91934	fluidigm	UT	Logan Canyon	41.928	-111.5602	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91935	fluidigm	UT	Logan Canyon	41.928	-111.5602	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91936	fluidigm	UT	Logan Canyon	41.928	-111.5602	Breeding	INW	INW	1998	7	10	Eben Paxton
1740-91938	fluidigm	UT	Logan Canyon	41.928	-111.5602	Breeding	NA	INW	1998	7	10	Eben Paxton
1590-97385	fluidigm	UT	Logan River	41.7205	-111.8837	Breeding	INW	INW	1998	6	19	Eben Paxton
1740-91910	fluidigm	UT	Logan River	41.74	-111.79	Breeding	INW	INW	1998	6	19	Eben Paxton
1740-91912	fluidigm	UT	Logan River	41.74	-111.79	Breeding	INW	INW	1998	6	19	Eben Paxton
1740-91907	fluidigm	UT	Spring Creek	41.7198	-111.9349	Breeding	INW	INW	1998	6	18	Eben Paxton
1740-91908	fluidigm	UT	Spring Creek	41.7198	-111.9349	Breeding	NA	INW	1998	6	18	Eben Paxton
1590-97384	fluidigm	UT	Little Bear Riv	41.7191	-111.9438	Breeding	INW	INW	1998	6	18	Eben Paxton
1740-91915	fluidigm	UT	Lost Creek	41.19	-111.39	Breeding	INW	INW	1998	6	25	Eben Paxton
1590-97395	fluidigm	UT	Stewart Lake	40.3462	-109.3588	Breeding	INW	INW	1998	7	1	Eben Paxton
1740-91925	fluidigm	UT	Stewart Lake	40.3462	-109.3588	Breeding	NA	INW	1998	7	1	Eben Paxton
1740-91926	fluidigm	UT	Stewart Lake	40.3462	-109.3588	Breeding	INW	INW	1998	7	1	Eben Paxton
1740-51822	fluidigm	UT	White River (	40.6725	-109.68	Breeding	INW	INW	2001	6	30	Eben Paxton
1590-97436	fluidigm	CO	White River (	37.4307	-105.79	Breeding	NA	INW	1997	6	24	Eben Paxton
1740-91927	fluidigm	UT	Uinta River	40.5943	-110.125	Breeding	INW	INW	1998	7	1	Eben Paxton
1740-51823	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1740-51824	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1740-51825	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1740-51826	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1740-51827	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1740-51828	RAD	UT	White River (	40.6725	-109.6767	Breeding	INW	INW	2001	6	30	Eben Paxton
1590-97389	fluidigm	UT	East Canyon	40.8744	-111.583	Breeding	INW	INW	1998	6	26	Eben Paxton
1740-91904	fluidigm	UT	East Canyon	40.908097	-111.59203	Breeding	INW	INW	1998	6	13	Eben Paxton
1740-91905	fluidigm	UT	East Canyon	40.908097	-111.59203	Breeding	NA	INW	1998	6	13	Eben Paxton
1740-91906	fluidigm	UT	East Canyon	40.908097	-111.59203	Breeding	INW	INW	1998	6	13	Eben Paxton
1740-91917	fluidigm	UT	East Canyon	40.908097	-111.59203	Breeding	INW	INW	1998	6	26	Eben Paxton
1590-97396	fluidigm	UT	Strawberry R	40.3468	-111.2271	Breeding	NA	INW	1998	7	2	Eben Paxton
1590-97397	fluidigm	UT	Strawberry R	40.3468	-111.2271	Breeding	INW	INW	1998	7	2	Eben Paxton
1590-97398	fluidigm	UT	Strawberry R	40.3468	-111.2271	Breeding	NA	INW	1998	7	2	Eben Paxton

ID	Method	State	Location	Lat	Lon	Season	Col1	Col2	Year	N1	N2	Collector
1740-91928	fluidigm	UT	Strawberry R	40.3468	-111.2271	Breeding	INW	INW	1998	7	2	Eben Paxton
1740-91929	fluidigm	UT	Strawberry R	40.3468	-111.2271	Breeding	NA	INW	1998	7	2	Eben Paxton
1740-91930	fluidigm	UT	Provo River F	40.2367	-111.7183	Breeding	NA	INW	1998	7	9	Eben Paxton
1740-91931	fluidigm	UT	Provo River F	40.2367	-111.7183	Breeding	NA	INW	1998	7	9	Eben Paxton
1740-91933	fluidigm	UT	Provo River F	40.2367	-111.7183	Breeding	NA	INW	1998	7	9	Eben Paxton
1740-51764	fluidigm	UT	Fish Creek	39.7751	-111.2	Breeding	INW	INW	2002	7	13	Eben Paxton
1590-97390	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	27	Eben Paxton
1590-97391	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	27	Eben Paxton
1590-97392	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	28	Eben Paxton
1590-97393	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	28	Eben Paxton
1740-51646	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	2002	7	15	Eben Paxton
1740-51684	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	2002	7	7	Eben Paxton
1740-51686	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	2002	7	8	Eben Paxton
1740-51687	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	NA	INW	2002	7	8	Eben Paxton
1740-91921	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	28	Eben Paxton
1740-91922	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	28	Eben Paxton
1740-91923	RAD	UT	Fish Creek	39.7751	-111.2035	Breeding	INW	INW	1998	6	28	Eben Paxton
1590-97470	fluidigm	UT	Fish Lake	38.6931	-111.6785	Breeding	INW	INW	1997	7	25	Eben Paxton
1590-97471	fluidigm	UT	Fish Lake	38.6931	-111.6785	Breeding	INW	INW	1997	7	26	Eben Paxton
1740-91953	fluidigm	UT	Mill Meadow	38.4862	-111.574	Breeding	NA	INW	1998	7	19	Eben Paxton
1740-91951	fluidigm	UT	Fremont Rive	38.3077	-111.512	Breeding	NA	INW	1998	7	18	Eben Paxton
1740-91952	fluidigm	UT	Fremont Rive	38.3077	-111.512	Breeding	NA	INW	1998	7	18	Eben Paxton
1590-97465	fluidigm	CO	Arapahoe Na	40.6167	-106.2833	Breeding	INW	INW	1997	7	17	Eben Paxton
1590-97466	fluidigm	CO	Arapahoe Na	40.6167	-106.2833	Breeding	INW	INW	1997	7	17	Eben Paxton
1590-97467	fluidigm	CO	Arapahoe Na	40.6167	-106.2833	Breeding	INW	INW	1997	7	17	Eben Paxton
1590-97469	fluidigm	CO	Arapahoe Na	40.6167	-106.2833	Breeding	INW	INW	1997	7	18	Eben Paxton
1590-97422	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	INW	INW	1997	6	13	Eben Paxton
1590-97423	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	INW	INW	1997	6	13	Eben Paxton
1590-97424	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	NA	INW	1997	6	13	Eben Paxton
1590-97425	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	INW	INW	1997	6	13	Eben Paxton
1590-97427	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	INW	INW	1997	6	13	Eben Paxton
1590-97432	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	NA	INW	1997	6	16	Eben Paxton
1590-97433	fluidigm	CO	Rio Blanco La	40.0883	-108.2119	Breeding	INW	INW	1997	6	16	Eben Paxton
1590-97416	fluidigm	CO	Lake Avery	39.9717	-107.6467	Breeding	NA	INW	1997	6	12	Eben Paxton
1590-97417	fluidigm	CO	White River a	39.95	-107.7	Breeding	INW	INW	1997	6	12	Eben Paxton
1590-97418	fluidigm	CO	White River a	39.95	-107.7	Breeding	NA	INW	1997	6	12	Eben Paxton
1740-91649	fluidigm	CO	Colorado Riv	39.5412	-107.6969	Breeding	INW	INW	1996	7	29	Eben Paxton
1740-91650	fluidigm	CO	Colorado Riv	39.5412	-107.6969	Breeding	NA	INW	1996	7	29	Eben Paxton
1590-97430	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	INW	INW	1997	6	14	Eben Paxton
1590-97431	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	INW	INW	1997	6	14	Eben Paxton
1740-91763	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	NA	INW	1996	7	31	Eben Paxton
1740-91764	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	INW	INW	1996	7	31	Eben Paxton
1740-91765	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	NA	INW	1996	7	31	Eben Paxton
1740-91776	fluidigm	CO	Homestake C	39.4667	-106.3667	Breeding	NA	INW	1996	7	31	Eben Paxton
1590-97463	fluidigm	CO	Vega Reservo	39.225	-107.8083	Breeding	INW	INW	1997	7	12	Eben Paxton
1590-97464	fluidigm	CO	Vega Reservo	39.225	-107.8083	Breeding	INW	INW	1997	7	13	Eben Paxton
1740-91762	fluidigm	CO	Gothic	38.9461	-106.9878	Breeding	INW	INW	1996	7	29	Eben Paxton
1590-97403	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1997	5	24	Eben Paxton
1590-97413	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1997	6	11	Eben Paxton
1740-91641	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1996	7	27	Eben Paxton
1740-91642	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1996	7	28	Eben Paxton
1740-91643	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1996	7	28	Eben Paxton
1740-91644	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	NA	INW	1996	7	28	Eben Paxton
1740-91645	fluidigm	CO	Escalante Sta	38.7563	-108.1565	Breeding	INW	INW	1996	7	28	Eben Paxton
1590-97410	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	NA	INW	1997	6	2	Eben Paxton
1590-97411	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	6	2	Eben Paxton
1590-97448	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	6	28	Eben Paxton
1590-97451	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	6	28	Eben Paxton
1590-97457	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	7	1	Eben Paxton
1590-97458	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	7	1	Eben Paxton
1590-97460	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	INW	INW	1997	7	1	Eben Paxton
1740-91638	fluidigm	CO	Clear Creek	37.7917	-108.2356	Breeding	NA	INW	1996	7	25	Eben Paxton
1590-97412	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	INW	INW	1997	6	3	Eben Paxton
1590-97452	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	NA	INW	1997	6	29	Eben Paxton
1590-97453	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	INW	INW	1997	6	29	Eben Paxton
1590-97454	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	INW	INW	1997	6	29	Eben Paxton
1590-97455	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	NA	INW	1997	6	30	Eben Paxton
1740-91640	fluidigm	CO	Beaver Creek	37.6836	-108.3781	Breeding	NA	INW	1996	7	26	Eben Paxton
2350-24112	fluidigm	CO	Higel State W	37.5	-106	Breeding	INW	INW	2004	6	14	Eben Paxton
2350-24115	fluidigm	CO	Higel State W	37.5	-106	Breeding	NA	INW	2004	6	14	Eben Paxton
2350-24116	fluidigm	CO	Higel State W	37.5	-106	Breeding	INW	INW	2004	6	14	Eben Paxton
2350-24117	fluidigm	CO	Higel State W	37.5	-106	Breeding	INW	INW	2004	6	14	Eben Paxton
1710-20640	fluidigm	CO	Alamosa Nati	37.4307	-105.79	Breeding	SSW	INW	1998	6	23	Eben Paxton
1740-91748	fluidigm	CO	Alamosa Nati	37.4307	-105.79	Breeding	NA	INW	1996	7	25	Eben Paxton
1740-91749	fluidigm	CO	Alamosa Nati	37.4307	-105.79	Breeding	PNW	INW	1996	7	25	Eben Paxton
1740-91750	fluidigm	CO	Alamosa Nati	37.4307	-105.79	Breeding	INW	INW	1996	7	25	Eben Paxton
1590-97407	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	NA	INW	1997	6	1	Eben Paxton
1590-97409	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	INW	INW	1997	6	1	Eben Paxton
1590-97437	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	INW	INW	1997	6	24	Eben Paxton
1590-97439	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	NA	INW	1997	6	25	Eben Paxton
1590-97441	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	INW	INW	1997	6	25	Eben Paxton
1590-97442	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	INW	INW	1997	6	25	Eben Paxton
1710-20639	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	SSW	INW	1998	6	23	Eben Paxton
1740-91746	fluidigm	CO	Alamosa Nati	37.4307	-105.7896	Breeding	INW	INW	1996	7	25	Eben Paxton
2350-24107	fluidigm	CO	Alamosa Nati	37.5	-106	Breeding	INW	INW	2004	6	14	Eben Paxton
2350-24109	fluidigm	CO	Alamosa Nati	37.5	-106	Breeding	INW	INW	2004	6	14	Eben Paxton
2350-24118	fluidigm	CO	Alamosa Nati	37.5	-106	Breeding	NA	INW	2004	6	13	Eben Paxton
2350-24120	fluidigm	CO	Alamosa Nati	37.5	-106	Breeding	NA	INW	2004	6	13	Eben Paxton
2350-24122	fluidigm	CO	Alamosa Nati	37.5	-106	Breeding	NA	INW	2004	6	13	Eben Paxton
1590-97461	fluidigm	CO	McIntyre Spr	37.2833	-105.8167	Breeding	INW	INW	1997	7	9	Eben Paxton
1590-97446	fluidigm	CO	McIntire Spri	37.2833	-105.8167	Breeding	INW	INW	1997	6	27	Eben Paxton
1590-97447	fluidigm	CO	McIntire Spri	37.2833	-105.8167	Breeding	INW	INW	1997	6	27	Eben Paxton
2350-24201	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	INW	INW		NA		Eben Paxton
2350-24224	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	NA	INW		NA		Eben Paxton
2350-24225	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	INW	INW	2004	8	1	Eben Paxton
2350-24226	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	NA	INW	2004	7	19	Eben Paxton
2350-24227	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	INW	INW	2004	7	6	Eben Paxton
2350-24228	fluidigm	CO	Southern Ute	37.121417	-107.59235	Breeding	INW	INW	2004	7	31	Eben Paxton
1590-97342	fluidigm	AZ	Lower Colora	36.0503	-114.7331	Breeding	SSW	SSW	1997	6	17	Eben Paxton
1590-97343	fluidigm	AZ	Lower Colora	36.0503	-114.7331	Breeding	SSW	SSW	1997	6	18	Eben Paxton
1590-97344	fluidigm	AZ	Lower Colora	36.0503	-114.7331	Breeding	SSW	SSW	1997	6	18	Eben Paxton
1710-20638	fluidigm	AZ	Lower Colora	36.0503	-114.7331	Breeding	SSW	SSW	1998	7	1	Eben Paxton
2140-66628	fluidigm	AZ	Lower Colora	36.0503	-114.7331	Breeding	SSW	SSW	1998	7	8	Eben Paxton
1590-97233	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1997	6	23	Eben Paxton
1590-97235	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1997	6	23	Eben Paxton
1590-97322	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1997	6	5	Eben Paxton
1590-97324	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1997	6	5	Eben Paxton
1740-91501	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1996	5	28	Eben Paxton
1740-91504	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1996	5	28	Eben Paxton
1740-91526	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1996	6	29	Eben Paxton
1740-91685	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1998	6	28	Eben Paxton

2290-24257	fluidigm	AZ	Camp Verde	34.5583	-111.84	Breeding	SSW	SSW	1997	6	5	Eben Paxton
1590-97220	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	NA	SSW	1997	6	8	Eben Paxton
1590-97234	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1997	6	23	Eben Paxton
1590-97323	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1997	6	5	Eben Paxton
1590-97326	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1997	6	5	Eben Paxton
1590-97368	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1997	6	8	Eben Paxton
1710-46386	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	2000	6	25	Eben Paxton
1740-91532	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1996	7	6	Eben Paxton
1740-91684	fluidigm	AZ	Camp Verde	34.5583	-111.8417	Breeding	SSW	SSW	1998	6	28	Eben Paxton
1590-97236	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	23	Eben Paxton
1590-97253	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	30	Eben Paxton
1590-97268	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	8	7	Eben Paxton
1590-97304	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	5	14	Eben Paxton
1590-97312	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	5	31	Eben Paxton
1590-97314	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	1	Eben Paxton
1590-97319	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	2	Eben Paxton
1590-97320	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	3	Eben Paxton
1590-97352	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	6	28	Eben Paxton
1590-97373	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1997	7	14	Eben Paxton
1710-20300	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1999	7	19	Eben Paxton
1710-20302	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1999	7	14	Eben Paxton
1710-20305	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1999	7	24	Eben Paxton
1710-20306	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	1999	7	24	Eben Paxton
1710-20316	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	2001	6	12	Eben Paxton
1710-20320	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	2001	7	14	Eben Paxton
1710-20321	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	2001	7	18	Eben Paxton
1710-20323	fluidigm	AZ	Roosevelt Lal	33.767	-111.24	Breeding	SSW	SSW	2000	6	24	Eben Paxton
1590-97292	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	10	Eben Paxton
1590-97293	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	NA	SSW	2000	6	10	Eben Paxton
1590-97294	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	10	Eben Paxton
1590-97296	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	10	Eben Paxton
1710-20642	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-20659	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	29	Eben Paxton
1710-20660	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	29	Eben Paxton
1710-46371	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-46372	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46373	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46374	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46375	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46376	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46377	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46378	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46379	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-46380	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-46381	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46382	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46383	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46391	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-46392	fluidigm	AZ	San Carlos Re	33.1967	-110.44	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1590-97291	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	10	Eben Paxton
1710-20641	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-20643	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-20645	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	29	Eben Paxton
1710-20661	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	29	Eben Paxton
1710-46394	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1710-46397	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	21	Eben Paxton
1710-46400	fluidigm	AZ	San Carlos Re	33.1967	-110.4392	Breeding	SSW	SSW	2000	6	20	Eben Paxton
1590-97289	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	2000	6	5	Eben Paxton
1590-97290	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	2000	6	5	Eben Paxton
1590-97302	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	NA	SSW	1997	5	8	Eben Paxton
1590-97303	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	5	8	Eben Paxton
1590-97306	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	5	22	Eben Paxton
1590-97307	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	5	22	Eben Paxton
1590-97308	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	5	29	Eben Paxton
1590-97310	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	5	29	Eben Paxton
1590-97349	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	27	Eben Paxton
1590-97350	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	27	Eben Paxton
1590-97353	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	28	Eben Paxton
1590-97354	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	28	Eben Paxton
1590-97356	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	29	Eben Paxton
1590-97357	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	6	29	Eben Paxton
1590-97381	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	7	22	Eben Paxton
1590-97382	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	7	22	Eben Paxton
1590-97383	fluidigm	AZ	San Pedro/Gi	32.975	-110.77	Breeding	SSW	SSW	1997	7	22	Eben Paxton
1740-51668	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51669	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51671	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51674	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51677	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51678	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51679	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1740-51681	fluidigm	AZ	East Pima site	32.8283	-109.7047	Breeding	SSW	SSW	2002	5	30	Eben Paxton
1590-97252	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	1997	6	30	Eben Paxton
1710-20576	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	1999	7	7	Eben Paxton
1710-20605	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2000	6	30	Eben Paxton
1710-20698	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2000	6	19	Eben Paxton
1740-51644	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2002	6	28	Eben Paxton
1740-51717	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2002	6	27	Eben Paxton
1740-51750	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2002	7	11	Eben Paxton
1740-51820	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2002	6	19	Eben Paxton
1740-51881	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2001	6	29	Eben Paxton
1740-91591	RAD	AZ	Roosevelt Lal	33.767	-111.2417	Breeding	SSW	SSW	2000	7	12	Eben Paxton
1590-97239	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1997	6	24	Eben Paxton
1590-97241	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1997	6	24	Eben Paxton
1590-97247	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1997	6	26	Eben Paxton
1710-20402	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1998	6	22	Eben Paxton
1710-20453	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	2000	6	15	Eben Paxton
1710-20469	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1998	7	15	Eben Paxton
1710-20482	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1999	6	28	Eben Paxton
1710-20491	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1999	7	4	Eben Paxton
1740-91611	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	6	6	Eben Paxton
1740-91617	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	6	15	Eben Paxton
1740-91618	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	6	17	Eben Paxton
1740-91619	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	6	17	Eben Paxton
1740-91620	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	6	17	Eben Paxton
1740-91636	RAD	AZ	San Pedro/Gi	32.975	-110.7667	Breeding	SSW	SSW	1996	7	13	Eben Paxton
1740-91693	fluidigm	NM	Los Ojos/Parl	36.7292	-106.5694	Breeding	INW	SSW	1998	7	10	Eben Paxton
1710-20404	fluidigm	NM	San Marcial	33.5729	-107.03	Breeding	NA	SSW	1998	7	12	Eben Paxton
1710-20405	fluidigm	NM	San Marcial	33.5729	-107.03	Breeding	SSW	SSW	1998	7	12	Eben Paxton
1710-20644	fluidigm	NM	West Fort Dit	33.0386	-108.54	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46366	fluidigm	NM	West Fort Dit	33.0386	-108.54	Breeding	SSW	SSW	2000	6	28	Eben Paxton

1710-46367	fluidigm	NM	West Fort Dit	33.0386	-108.54	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46365	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46368	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46369	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46370	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46387	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46388	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1710-46389	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	SSW	SSW	2000	6	28	Eben Paxton
1740-91683	fluidigm	NM	West Fort Dit	33.0386	-108.5378	Breeding	NA	SSW	1998	6	24	Eben Paxton
1590-97336	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	NA	SSW	1997	6	15	Eben Paxton
1590-97337	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	SSW	SSW	1997	6	15	Eben Paxton
1590-97338	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	SSW	SSW	1997	6	16	Eben Paxton
1590-97339	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	NA	SSW	1997	6	16	Eben Paxton
1590-97340	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	SSW	SSW	1997	6	16	Eben Paxton
1590-97341	fluidigm	NV	Pahranagat L	37.3167	-115.13	Breeding	SSW	SSW	1997	6	16	Eben Paxton
1740-91954	fluidigm	UT	St. George	37.1083	-113.7384	Breeding	NA	SSW	1998	8	5	Eben Paxton
1740-91955	fluidigm	UT	St. George	37.1083	-113.7384	Breeding	NA	SSW	1998	8	5	Eben Paxton
1740-91956	fluidigm	UT	St. George	37.1083	-113.7384	Breeding	NA	SSW	1998	8	5	Eben Paxton
1740-91957	fluidigm	UT	St. George	37.1083	-113.7384	Breeding	SSW	SSW	1998	8	5	Eben Paxton
1590-97378	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	15	Eben Paxton
1710-46399	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1999	7	16	Eben Paxton
1740-51617	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	2001	7	16	Eben Paxton
1740-51701	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	2001	7	16	Eben Paxton
1740-91534	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	1996	7	26	Eben Paxton
1740-91695	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	19	Eben Paxton
1740-91696	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	19	Eben Paxton
1740-91697	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	19	Eben Paxton
1740-91738	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	1996	7	3	Eben Paxton
1590-97261	fluidigm	AZ	White Mount	34	-109	Breeding	PNW	WMTT	1997	7	20	Eben Paxton
1590-97369	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1997	7	9	Eben Paxton
1590-97370	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1997	7	9	Eben Paxton
1590-97371	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1997	7	9	Eben Paxton
1710-46396	fluidigm	AZ	White Mount	34	-109	Breeding	NA	WMTT	1999	7	12	Eben Paxton
1740-91535	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1996	7	26	Eben Paxton
1740-91631	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1996	7	11	Eben Paxton
1740-91698	fluidigm	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	21	Eben Paxton
1590-97224	RAD	AZ	White Mount	34	-109	Breeding	INW	WMTT	1997	6	14	Eben Paxton
1590-97225	RAD	AZ	White Mount	34	-109	Breeding	INW	WMTT	1997	6	14	Eben Paxton
1590-97232	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	6	17	Eben Paxton
1590-97260	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	20	Eben Paxton
1590-97262	RAD	AZ	White Mount	34	-109	Breeding	INW	WMTT	1997	7	20	Eben Paxton
1590-97376	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	14	Eben Paxton
1590-97377	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	14	Eben Paxton
1590-97379	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	15	Eben Paxton
1590-97380	RAD	AZ	White Mount	34	-109	Breeding	NA	WMTT	1997	7	15	Eben Paxton
1710-20631	RAD	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	14	Eben Paxton
1710-20632	RAD	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	14	Eben Paxton
1710-20633	RAD	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1998	7	14	Eben Paxton
1740-91633	RAD	AZ	White Mount	34	-109	Breeding	WMT	WMTT	1996	7	11	Eben Paxton
1740-51660	fluidigm	SD	Little White F	43.1667	-101.53	Breeding	NA	EST	2000	6	19	Eben Paxton
1740-51662	fluidigm	SD	Little White F	43.1667	-101.53	Breeding	NA	EST	2000	6	19	Eben Paxton
1740-51656	RAD	SD	Little White F	43.1667	-101.5333	Breeding	EST	EST	2000	6	19	Eben Paxton
1740-51657	RAD	SD	Little White F	43.1667	-101.5333	Breeding	NA	EST	2000	6	19	Eben Paxton
1740-51658	RAD	SD	Little White F	43.1667	-101.5333	Breeding	EST	EST	2000	6	19	Eben Paxton
1740-51659	RAD	SD	Little White F	43.1667	-101.5333	Breeding	EST	EST	2000	6	19	Eben Paxton
1740-51664	RAD	SD	Waubay NWI	45.4042	-97.3333	Breeding	EST	EST	2000	6	20	Eben Paxton
1740-51665	RAD	SD	Waubay NWI	45.4042	-97.3333	Breeding	EST	EST	2000	6	20	Eben Paxton
1740-51666	RAD	SD	Waubay NWI	45.4042	-97.3333	Breeding	EST	EST	2000	6	20	Eben Paxton
1740-51667	RAD	SD	Waubay NWI	45.4042	-97.3333	Breeding	NA	EST	2000	6	20	Eben Paxton
1740-51651	fluidigm	ND	Arrowwood I	47.2125	-98.842	Breeding	NA	EST	2000	6	17	Eben Paxton
1740-51653	fluidigm	ND	Arrowwood I	47.2125	-98.842	Breeding	EST	EST	2000	6	17	Eben Paxton
1740-51654	fluidigm	ND	Arrowwood I	47.2125	-98.842	Breeding	NA	EST	2000	6	17	Eben Paxton
1740-91779	fluidigm	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	23	Eben Paxton
1740-91780	fluidigm	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	24	Eben Paxton
1740-91781	fluidigm	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	24	Eben Paxton
1740-91783	fluidigm	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	25	Eben Paxton
WIFLA	RAD	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	24	Eben Paxton
WIFLB	RAD	MN	Elm Creek	45.1333	-93.45	Breeding	EST	EST	1998	6	24	Eben Paxton
1740-91791	RAD	IN	Willow Slew	40.9833	-87.525	Breeding	EST	EST	1998	7	3	Eben Paxton
1740-91792	RAD	IN	Willow Slew	40.9833	-87.525	Breeding	EST	EST	1998	7	3	Eben Paxton
1740-91793	RAD	IN	Willow Slew	40.9833	-87.525	Breeding	EST	EST	1998	7	3	Eben Paxton
1740-91794	RAD	IN	Willow Slew	40.9833	-87.525	Breeding	EST	EST	1998	7	4	Eben Paxton
2750-97761	fluidigm	MI	Vicksburg	42.1669	-85.518	Breeding	EST	EST	2016	7	4	Mary Whitfield
2750-97762	fluidigm	MI	Vicksburg	42.1669	-85.518	Breeding	EST	EST	2016	7	4	Mary Whitfield
2710-37143	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	2	Mary Whitfield
2750-97753	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	7	1	Mary Whitfield
2750-97754	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	7	1	Mary Whitfield
2750-97771	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	7	10	Mary Whitfield
2750-98990	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	2	Mary Whitfield
2750-98995	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	2	Mary Whitfield
2750-98997	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	2	Mary Whitfield
2750-99269	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	13	Mary Whitfield
2750-99292	fluidigm	MI	Augusta	42.2969	-85.324	Breeding	EST	EST	2016	6	13	Mary Whitfield
2550-06470	RAD	MI	FCTC-SABO	42.84027	-85.303	Breeding	NA	EST	2015	6	26	Brenda Keith
2730-29419	RAD	MI	FCTC-SABO	42.84027	-85.303	Breeding	EST	EST	2015	6	19	Brenda Keith
2750-69223	RAD	MI	FCTC-SABO	42.84027	-85.303	Breeding	EST	EST	2015	6	19	Brenda Keith
2750-69228	RAD	MI	FCTC-SABO	42.84027	-85.303	Breeding	EST	EST	2015	6	19	Brenda Keith
1740-51601	fluidigm	TN	Cross Creek	36.5	-87.787	Breeding	EST	EST	2000	6	16	Eben Paxton
1740-51604	fluidigm	TN	Cross Creek	36.5	-87.787	Breeding	EST	EST	2000	6	16	Eben Paxton
1740-51605	fluidigm	TN	Cross Creek	36.5	-87.787	Breeding	EST	EST	2000	6	16	Eben Paxton
1740-51606	fluidigm	TN	Cross Creek	36.5	-87.787	Breeding	EST	EST	2000	6	16	Eben Paxton
1740-51612	fluidigm	TN	Mountain Cit	36.3942	-81.852	Breeding	EST	EST	2000	6	19	Eben Paxton
1740-51613	fluidigm	TN	Mountain Cit	36.3942	-81.852	Breeding	EST	EST	2000	6	19	Eben Paxton
1740-51615	fluidigm	TN	Mountain Cit	36.3942	-81.852	Breeding	EST	EST	2000	6	19	Eben Paxton
2290-24394	fluidigm	MD	Lilypons	39.29	-77.43	Breeding	EST	EST	2004	7	1	Eben Paxton
2290-24377	fluidigm	MD	New Market	39.38	-77.27	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24378	fluidigm	MD	New Market	39.38	-77.27	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24400	fluidigm	MD	Mount Airy	39.37	-77.15	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24398	fluidigm	MD	Piney Run Re	39.4	-76.99	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24399	fluidigm	MD	Piney Run Re	39.4	-76.99	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24397	fluidigm	MD	Lewisdale 2	38.9737	-76.975	Breeding	EST	EST	2004	7	2	Eben Paxton
2290-24395	fluidigm	MD	King's Park	38.95	-76.97	Breeding	EST	EST	2004	7	2	Eben Paxton
2760-18640	RAD	PA	Bethlehem	40.645373	-75.41194	Breeding	EST	EST	2015	6	24	Tim Kita
2760-18642	RAD	PA	Bethlehem	40.654095	-75.629079	Breeding	EST	EST	2015	6	27	Tim Kita
2760-18643	RAD	PA	Bethlehem	40.654095	-75.629079	Breeding	EST	EST	2015	6	28	Tim Kita
2760-18645	RAD	PA	Bethlehem	40.654095	-75.629079	Breeding	EST	EST	2015	6	28	Tim Kita
2760-18641	RAD	PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	6	25	Tim Kita
2760-18646	RAD	PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	6	30	Tim Kita
2760-18647	RAD	PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	6	30	Tim Kita
2760-18657	RAD	PA	Orefield	40.654095	-75.629079	Breeding	EST	EST	2015	7	11	Tim Kita
2760-18658	RAD	PA	Orefield	40.654095	-75.629079	Breeding	EST	EST	2015	7	11	Tim Kita

2760-18661		RAD		PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	7	17	Tim Kita
2760-18662		RAD		PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	7	17	Tim Kita
2760-18663		RAD		PA	Orefield	40.655104	-75.669033	Breeding	EST	EST	2015	7	17	Tim Kita
2760-18636		RAD		PA	Bath	40.754404	-75.453241	Breeding	EST	EST	2015	6	23	Tim Kita
2760-18638		RAD		PA	Bath	40.754404	-75.453241	Breeding	EST	EST	2015	6	23	Tim Kita
2760-18648		RAD		PA	Bath	40.742759	-75.335646	Breeding	EST	EST	2015	6	30	Tim Kita
2760-18655		RAD		PA	Hellertown	40.553651	-75.305571	Breeding	EST	EST	2015	7	10	Tim Kita
2760-18656		RAD		PA	Hellertown	40.553651	-75.305571	Breeding	EST	EST	2015	7	10	Tim Kita
2760-18653		RAD		PA	Easton	40.692697	-75.294579	Breeding	EST	EST	2015	7	3	Tim Kita
2760-18654		RAD		PA	Easton	40.692697	-75.294579	Breeding	EST	EST	2015	7	4	Tim Kita
2760-18659		RAD		PA	Easton	40.692697	-75.294579	Breeding	EST	EST	2015	7	12	Tim Kita
2760-18660		RAD		PA	Easton	40.692697	-75.294579	Breeding	EST	EST	2015	7	14	Tim Kita
1740-91785		fluidigm		NY	Black Creek S	42.65	-73.933	Breeding	EST	EST	1998	6	28	Eben Paxton
1740-91786		fluidigm		NY	Black Creek S	42.65	-73.933	Breeding	EST	EST	1998	6	28	Eben Paxton
1740-91784		RAD		NY	Tower Road	43.3833	-73.9083	Breeding	EST	EST	1998	6	27	Eben Paxton
1740-91788		RAD		NY	Jen Owen's M	43.375	-73.7	Breeding	EST	EST	1998	6	30	Eben Paxton
1740-91789		RAD		NY	Jen Owen's M	43.375	-73.7	Breeding	EST	EST	1998	7	1	Eben Paxton
1740-91790		RAD		NY	Jen Owen's M	43.375	-73.7	Breeding	EST	EST	1998	7	1	Eben Paxton
1740-91960	1740-91960	fluidigm	Feather	CR	Coto/Coto 44	8.562	-82.9578	Wintering	EST	mixture	1999	FEB	7	Eben Paxton
1740-91965	1740-91965	fluidigm	Feather	CR	Puerto Jimen	8.5155	-83.2942	Wintering	EST	mixture	1999	FEB	9	Eben Paxton
2240-94367	2240-94367	fluidigm	Feather	EC	Hacienda Joh	-0.9664	-77.8119	Wintering	EST	mixture	2004	JAN	28	Eben Paxton
2330-99709	2330-99709	fluidigm	Feather	EC	Hacienda Joh	-0.9664	-77.8119	Wintering	EST	mixture	2004	JAN	28	Eben Paxton
2330-99717	2330-99717	fluidigm	Feather	EC	Hacienda Joh	-0.9664	-77.8119	Wintering	EST	mixture	2004	JAN	27	Eben Paxton
2330-99708	2330-99708	fluidigm	Feather	EC	Jaguar Lodge	-1.07	-77.61	Wintering	EST	mixture	2004	JAN	26	Eben Paxton
2330-99715	2330-99715	fluidigm	Feather	EC	Sani Lodge	-0.423313	-76.2847	Wintering	EST	mixture	2004	JAN	13	Eben Paxton
2240-94395	2240-94395	fluidigm	Feather	EC	Yuturi Lodge	-0.433091	-76.2793	Wintering	EST	mixture	2004	JAN	16	Eben Paxton
2330-99706	2330-99706	fluidigm	Feather	EC	Yuturi Lodge	-0.433091	-76.2793	Wintering	EST	mixture	2004	JAN	17	Eben Paxton
2240-94362	2240-94362	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	EST	mixture	2004	JAN	24	Mary Whitfield
2240-94363	2240-94363	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	EST	mixture	2004	JAN	24	Mary Whitfield
2330-99748	2330-99748	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	EST	mixture	2005	JAN	22	Mary Whitfield
2330-99750	2330-99750	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	EST	mixture	2005	JAN	23	Mary Whitfield
2330-99751	2330-99751	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	EST	mixture	2005	JAN	23	Mary Whitfield
2330-99749	2330-99749	fluidigm	Feather	EC	Coca River	-0.455541	-76.9928	Wintering	EST	mixture	2005	JAN	24	Mary Whitfield
2240-94368	2240-94368	fluidigm	Feather	EC	Hacienda Joh	-0.995672	-77.8132	Wintering	EST	mixture	2004	JAN	28	Mary Whitfield
2330-99727	2330-99727	fluidigm	Feather	EC	Hacienda Joh	-0.995672	-77.8132	Wintering	EST	mixture	2005	JAN	19	Mary Whitfield
2330-99762	2330-99762	fluidigm	Feather	EC	Hacienda Joh	-0.995672	-77.8132	Wintering	EST	mixture	2005	JAN	20	Mary Whitfield
2240-94346	2240-94346	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	EST	mixture	2004	JAN	26	Mary Whitfield
2240-94347	2240-94347	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	EST	mixture	2004	JAN	27	Mary Whitfield
2240-94366	2240-94366	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	EST	mixture	2004	JAN	27	Mary Whitfield
2330-99729	2330-99729	fluidigm	Feather	EC	Jatun Sacha	-1.085898	-77.6161	Wintering	EST	mixture	2005	JAN	22	Mary Whitfield
2330-99730	2330-99730	fluidigm	Feather	EC	Jatun Sacha	-1.085898	-77.6161	Wintering	EST	mixture	2005	JAN	23	Mary Whitfield
2240-94396	2240-94396	fluidigm	Feather	EC	La Selva	-0.5	-76.37	Wintering	EST	mixture	2004	JAN	15	Mary Whitfield
2240-94397	2240-94397	fluidigm	Feather	EC	La Selva	-0.5	-76.37	Wintering	EST	mixture	2004	JAN	15	Mary Whitfield
2330-99703	2330-99703	fluidigm	Feather	EC	La Selva	-0.5	-76.37	Wintering	EST	mixture	2004	JAN	14	Mary Whitfield
2330-99731	2330-99731	fluidigm	Feather	EC	La Selva	-0.5	-76.37	Wintering	EST	mixture	2005	JAN	28	Mary Whitfield
2240-94400	2240-94400	fluidigm	Feather	EC	MondaV±a/Y	-0.836033	-77.2214	Wintering	EST	mixture	2004	JAN	7	Mary Whitfield
2330-99747	2330-99747	fluidigm	Feather	EC	MondaV±a/Y	-0.836033	-77.2214	Wintering	EST	mixture	2005	JAN	20	Mary Whitfield
2330-99701	2330-99701	fluidigm	Feather	EC	Sacha	-0.47	-76.46	Wintering	EST	mixture	2004	JAN	11	Mary Whitfield
2240-94398	2240-94398	fluidigm	Feather	EC	Sani	-0.475861	-76.3132	Wintering	EST	mixture	2004	JAN	13	Mary Whitfield
2330-99702	2330-99702	fluidigm	Feather	EC	Sani	-0.475861	-76.3132	Wintering	EST	mixture	2004	JAN	13	Mary Whitfield
2330-99714	2330-99714	fluidigm	Feather	EC	Sani	-0.475861	-76.3132	Wintering	EST	mixture	2004	JAN	13	Mary Whitfield
2330-99763	2330-99763	fluidigm	Feather	EC	Sani Island	-0.475861	-76.3132	Wintering	EST	mixture	2005	JAN	26	Mary Whitfield
2330-99764	2330-99764	fluidigm	Feather	EC	Sani Island	-0.475861	-76.3132	Wintering	EST	mixture	2005	JAN	27	Mary Whitfield
2330-99765	2330-99765	fluidigm	Feather	EC	Sani Island	-0.475861	-76.3132	Wintering	EST	mixture	2005	JAN	28	Mary Whitfield
2330-99766	2330-99766	fluidigm	Feather	EC	Sani Island	-0.475861	-76.3132	Wintering	EST	mixture	2005	JAN	28	Mary Whitfield
2240-94344	2240-94344	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	EST	mixture	NA	NA	NA	Mary Whitfield
2240-94345	2240-94345	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	EST	mixture	NA	NA	NA	Mary Whitfield
2150-26568	2150-26568	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	EST	mixture	2000	FEB	8	Eben Paxton
2150-26502	2150-26502	fluidigm	Feather	PA	Laguan Narar	7.4475	-80.372	Wintering	EST	mixture	2000	JAN	10	Eben Paxton
2150-26505	2150-26505	fluidigm	Feather	PA	Laguan Narar	7.4475	-80.372	Wintering	EST	mixture	2000	JAN	10	Eben Paxton
2150-26532	2150-26532	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	EST	mixture	2000	JAN	12	Eben Paxton
1710-46134	1710-46134	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	APR	1	Eben Paxton
1710-46110	1710-46110	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	23	Eben Paxton
1710-46112	1710-46112	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	23	Eben Paxton
1710-46113	1710-46113	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	28	Eben Paxton
1740-91987	1740-91987	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	23	Eben Paxton
1740-91988	1740-91988	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	DEC	23	Eben Paxton
1740-91989	1740-91989	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	24	Eben Paxton
1740-91990	1740-91990	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	24	Eben Paxton
1740-91991	1740-91991	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	DEC	28	Eben Paxton
1710-46104	1710-46104	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	19	Eben Paxton
1710-46105	1710-46105	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	20	Eben Paxton
1710-46106	1710-46106	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	20	Eben Paxton
1710-46107	1710-46107	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	20	Eben Paxton
1710-46108	1710-46108	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	21	Eben Paxton
1710-46109	1710-46109	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	DEC	21	Eben Paxton
1740-91997	1740-91997	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	DEC	31	Eben Paxton
1710-46122	1710-46122	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	1	Eben Paxton
1710-46125	1710-46125	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	14	Eben Paxton
1710-46126	1710-46126	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	14	Eben Paxton
1710-46127	1710-46127	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	15	Eben Paxton
1710-46129	1710-46129	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	16	Eben Paxton
1710-46130	1710-46130	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	16	Eben Paxton
1710-46131	1710-46131	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	FEB	17	Eben Paxton
1710-46123	1710-46123	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	FEB	10	Eben Paxton
1710-46124	1710-46124	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	FEB	10	Eben Paxton
1740-91958	1740-91958	fluidigm	Feather	CR	Coto/Coto 44	8.562	-82.9578	Wintering	INW	mixture	1999	FEB	6	Eben Paxton
1740-91959	1740-91959	fluidigm	Feather	CR	Coto/Coto 44	8.562	-82.9578	Wintering	INW	mixture	1999	FEB	6	Eben Paxton
1740-91961	1740-91961	fluidigm	Feather	CR	Coto/Coto 44	8.562	-82.9578	Wintering	INW	mixture	1999	FEB	7	Eben Paxton
2150-26575	2150-26575	fluidigm	Feather	CR	Playa Caleta	9.759	-85.266	Wintering	INW	mixture	2000	FEB	11	Eben Paxton
1740-91963	1740-91963	fluidigm	Feather	CR	Puerto Jimen	8.5155	-83.2942	Wintering	INW	mixture	1999	FEB	9	Eben Paxton
1740-91964	1740-91964	fluidigm	Feather	CR	Puerto Jimen	8.5155	-83.2942	Wintering	INW	mixture	1999	FEB	9	Eben Paxton
2150-26576	2150-26576	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	INW	mixture	2000	FEB	12	Eben Paxton
1710-46120	1710-46120	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	JAN	28	Eben Paxton
1710-46121	1710-46121	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2000	JAN	28	Eben Paxton
1710-46135	1710-46135	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	5	Eben Paxton
1710-46136	1710-46136	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	5	Eben Paxton
1710-46137	1710-46137	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1710-46346	1710-46346	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1710-46347	1710-46347	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2002	JAN	2	Eben Paxton
1710-46349	1710-46349	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1710-46354	1710-46354	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2002	JAN	1	Eben Paxton
1710-46355	1710-46355	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1710-46356	1710-46356	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1710-46357	1710-46357	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2002	JAN	11	Eben Paxton
1740-91806	1740-91806	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	JAN	16	Eben Paxton
1740-91807	1740-91807	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	JAN	16	Eben Paxton
1740-91808	1740-91808	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	1999	JAN	17	Eben Paxton
1740-92000	1740-92000	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	INW	mixture	2001	JAN	5	Eben Paxton
1710-46114	1710-46114	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	3	Eben Paxton
1710-46115	1710-46115	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	3	Eben Paxton

1710-46116		1710-46116	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	3	Eben Paxton
1710-46117		1710-46117	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	4	Eben Paxton
1710-46118		1710-46118	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	4	Eben Paxton
1710-46119		1710-46119	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	JAN	5	Eben Paxton
1710-46138		1710-46138	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	9	Eben Paxton
1710-46139		1710-46139	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	10	Eben Paxton
1710-46141		1710-46141	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	11	Eben Paxton
1710-46143		1710-46143	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	13	Eben Paxton
1710-46145		1710-46145	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	14	Eben Paxton
1740-91998		1740-91998	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	1	Eben Paxton
1740-91999		1740-91999	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2001	JAN	2	Eben Paxton
1740-91841		1740-91841	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	INW	mixture	1999	JAN	12	Eben Paxton
1740-91842		1740-91842	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	INW	mixture	1999	JAN	12	Eben Paxton
1740-91810		1740-91810	fluidigm	Feather	CR	Solimar	10.291	-85.1657	Wintering	INW	mixture	1999	JAN	28	Eben Paxton
1740-91811		1740-91811	fluidigm	Feather	CR	Solimar	10.291	-85.1657	Wintering	INW	mixture	1999	JAN	28	Eben Paxton
1740-91812		1740-91812	fluidigm	Feather	CR	Solimar	10.291	-85.1657	Wintering	INW	mixture	1999	JAN	28	Eben Paxton
1710-20358		1710-20358	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	MAR	21	Eben Paxton
1710-20359		1710-20359	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	1999	MAR	21	Eben Paxton
1710-46133		1710-46133	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	MAR	29	Eben Paxton
1710-20351		1710-20351	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	INW	mixture	1999	MAR	18	Eben Paxton
1710-20354		1710-20354	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	INW	mixture	1999	MAR	18	Eben Paxton
1590-97479		1590-97479	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	INW	mixture	2000	OCT	8	Eben Paxton
2240-94365		2240-94365	fluidigm	Feather	EC	Jatun Sacha	-1.07	-77.61	Wintering	INW	mixture	2004	JAN	27	Eben Paxton
2330-99704		2330-99704	fluidigm	Feather	EC	La Selva Lodg	-0.5	-76.37	Wintering	INW	mixture	2004	JAN	14	Eben Paxton
2240-94399		2240-94399	fluidigm	Feather	EC	Coca	-0.455541	-76.9928	Wintering	INW	mixture	2004	JAN	11	Mary Whitfield
2330-99728		2330-99728	fluidigm	Feather	EC	Hacienda Joh	-0.995672	-77.8132	Wintering	INW	mixture	2005	JAN	20	Mary Whitfield
2330-99707		2330-99707	fluidigm	Feather	EC	Jaguar Lodge	-1.07	-77.61	Wintering	INW	mixture	2004	JAN	25	Mary Whitfield
2240-94361		2240-94361	fluidigm	Feather	EC	Yuturi	-0.433091	-76.2793	Wintering	INW	mixture	2004	JAN	18	Mary Whitfield
2330-99705		2330-99705	fluidigm	Feather	EC	Yuturi	-0.433091	-76.2793	Wintering	INW	mixture	2004	JAN	16	Mary Whitfield
2150-26571		2150-26571	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	INW	mixture	2000	FEB	9	Eben Paxton
2150-26545		2150-26545	fluidigm	Feather	EL	Jocotal W. (D	13.3262	-88.2697	Wintering	INW	mixture	2000	JAN	30	Eben Paxton
2330-99778	05N9736	2330-99778	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	11	Mary Whitfield
2330-99780	05N9738	2330-99780	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	11	Mary Whitfield
2330-99782	05N9740	2330-99782	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	12	Mary Whitfield
2330-99788	05N9770	2330-99788	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	16	Mary Whitfield
2330-99789	05N9754	2330-99789	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	16	Mary Whitfield
2410-67707	05N9747	2410-67707	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	11	Mary Whitfield
2410-67709	05N9749	2410-67709	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	11	Mary Whitfield
2410-67710	05N9750	2410-67710	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	INW	mixture	2005	DEC	12	Mary Whitfield
05N9742		233099784	fluidigm	Feather	GUAT	QUICHE	15.42466	-90.8628	Wintering	INW	mixture	2005	DEC	13	Mary Whitfield
2240-94382	05N9756	2240-94382	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	INW	mixture	2005	DEC	21	Mary Whitfield
2330-99785	05N9751	2330-99785	fluidigm	Feather	GUAT	Rio Sauce, El	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	15	Mary Whitfield
2330-99786	05N9752	2330-99786	fluidigm	Feather	GUAT	Rio Sauce, El	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	15	Mary Whitfield
2410-67705	05N9760	2410-67705	fluidigm	Feather	GUAT	Rio Sauce, El	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	16	Mary Whitfield
2410-67711	05N9761	2410-67711	fluidigm	Feather	GUAT	Rio Sauce, El	15.518396	-89.2995	Wintering	INW	mixture	2005	DEC	16	Mary Whitfield
05N3280	05N3280	2410-67704	fluidigm	Feather	GUAT	Los Amates	15.25	-89.05	Wintering	INW	mixture	2005	DEC	13	Mary Whitfield
05N3278	05N3278	2410-67702	fluidigm	Feather	GUAT	Los Amates	15.26	-89.07	Wintering	INW	mixture	2005	DEC	12	Mary Whitfield
2410-67787	07N2156	2410-67787	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	24	Mary Whitfield
2410-67788	07N2158	2410-67788	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	24	Mary Whitfield
2410-67789	07N2159	2410-67789	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	24	Mary Whitfield
2410-67791	07N2153	2410-67791	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	INW	mixture	2007	JAN	31	Mary Whitfield
2410-67792	07N2152	2410-67792	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	INW	mixture	2007	JAN	31	Mary Whitfield
2410-67793	07N2151	2410-67793	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	INW	mixture	2007	JAN	31	Mary Whitfield
2410-67701	05N9743	2410-67701	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	26	Mary Whitfield
2410-67708	05N9748	2410-67708	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	26	Mary Whitfield
07N2160	07N2160	244099783	fluidigm	Feather	GUAT	QUICHE	15.42466	-90.8628	Wintering	INW	mixture	2007	JAN	27	Mary Whitfield
2330-99783	05N9741	2330-99783	fluidigm	Feather	GUAT	Quiche, Los A	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	27	Mary Whitfield
2410-67763	07N2161	2410-67763	fluidigm	Feather	GUAT	Quiche, Los A	15.246805	-89.1036	Wintering	INW	mixture	2007	JAN	27	Mary Whitfield
2410-67765	07N2164	2410-67765	fluidigm	Feather	GUAT	Rio Sauce, El	15.518396	-89.2995	Wintering	INW	mixture	2007	JAN	30	Mary Whitfield
18N00312	18N00312	233099921	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	INW	mixture	2018	FEB	10	Mary Whitfield
18N00395	18N00395	233099918	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	INW	mixture	2016	FEB	8	Mary Whitfield
18N00330	18N00330	233099916	fluidigm	Feather	NICA	Lago de Apar	13.19	-85.96	Wintering	INW	mixture	2018	FEB	5	Mary Whitfield
18N00331	18N00331	233099917	fluidigm	Feather	NICA	Lago de Apar	13.19	-85.96	Wintering	INW	mixture	2018	FEB	5	Mary Whitfield
241067726		241067726	fluidigm	Feather	NICA	CabaÔa los P	12.887084	-87.49636	Wintering	INW	mixture	2017	JAN	15	Mary Whitfield
241067729		241067729	fluidigm	Feather	NICA	CabaÔa los P	12.887084	-87.497	Wintering	INW	mixture	2017	JAN	18	Mary Whitfield
241067752		241067752	fluidigm	Feather	NICA	Finca de San	12.798346	-87.1575	Wintering	INW	mixture	2017	JAN	17	Mary Whitfield
229020156		229020156	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	25	Mary Whitfield
241067730		241067730	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	25	Mary Whitfield
241067731		241067731	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	25	Mary Whitfield
241067733		241067733	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	25	Mary Whitfield
241067734		241067734	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	25	Mary Whitfield
241067773		241067773	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	26	Mary Whitfield
241067799		241067799	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	26	Mary Whitfield
241067800		241067800	fluidigm	Feather	NICA	Laguna la Tis	12.085834	-85.43054	Wintering	INW	mixture	2017	JAN	26	Mary Whitfield
18N00325	18N00325	233099914	fluidigm	Feather	NICA	Reserva Natu	12.25	-86.34	Wintering	INW	mixture	2018	JAN	31	Mary Whitfield
18N00398	18N00398	233099929	fluidigm	Feather	NICA	Laguna de Tis	12.1	-85.98	Wintering	INW	mixture	2016	MAR	28	Mary Whitfield
18N00399	18N00399	233099923	fluidigm	Feather	NICA	Laguna de Tis	12.1	-85.98	Wintering	INW	mixture	2016	MAR	28	Mary Whitfield
2150-26512		2150-26512	fluidigm	Feather	PA	El Real	8.1057	-77.7228	Wintering	INW	mixture	2000	JAN	22	Eben Paxton
2150-26513		2150-26513	fluidigm	Feather	PA	El Real	8.1057	-77.7228	Wintering	INW	mixture	2000	JAN	22	Eben Paxton
2150-26538		2150-26538	fluidigm	Feather	PA	El Real	8.1057	-77.7228	Wintering	INW	mixture	2000	JAN	22	Eben Paxton
2150-26541		2150-26541	fluidigm	Feather	PA	El Real	8.1057	-77.7228	Wintering	INW	mixture	2001	JAN	22	Eben Paxton
2150-26542		2150-26542	fluidigm	Feather	PA	El Real	8.1057	-77.7228	Wintering	INW	mixture	2000	JAN	24	Eben Paxton
2150-26501		2150-26501	fluidigm	Feather	PA	Laguan Narar	7.4475	-80.372	Wintering	INW	mixture	2000	JAN	9	Eben Paxton
2150-26504		2150-26504	fluidigm	Feather	PA	Laguan Narar	7.4475	-80.372	Wintering	INW	mixture	2000	JAN	10	Eben Paxton
2150-26523		2150-26523	fluidigm	Feather	PA	Laguan Narar	7.4475	-80.372	Wintering	INW	mixture	2000	JAN	9	Eben Paxton
2150-26526		2150-26526	fluidigm	Feather	PA	Laguna Narar	7.4488	-80.3755	Wintering	INW	mixture	2000	JAN	10	Eben Paxton
2150-26506		2150-26506	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	12	Eben Paxton
2150-26507		2150-26507	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	12	Eben Paxton
2150-26529		2150-26529	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	12	Eben Paxton
2150-26531		2150-26531	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	12	Eben Paxton
2150-26533		2150-26533	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	17	Eben Paxton
2150-26534		2150-26534	fluidigm	Feather	PA	Pese	7.8867	-80.5405	Wintering	INW	mixture	2000	JAN	24	Eben Paxton
2150-26508		2150-26508	fluidigm	Feather	PA	San Felix	8.1732	-81.8673	Wintering	INW	mixture	2000	JAN	15	Eben Paxton
2150-26509		2150-26509	fluidigm	Feather	PA	San Felix	8.1732	-81.8673	Wintering	INW	mixture	2000	JAN	15	Eben Paxton
2150-26511		2150-26511	fluidigm	Feather	PA	Tocuman Ma	9.0705	-79.3755	Wintering	INW	mixture	2000	JAN	19	Eben Paxton
2150-26517		2150-26517	fluidigm	Feather	PA	Tocuman Ma	9.0705	-79.3755	Wintering	INW	mixture	2000	JAN	19	Eben Paxton
1710-46111		1710-46111	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	PNW	mixture	1999	DEC	23	Eben Paxton
1710-46128		1710-46128	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	PNW	mixture	2000	FEB	16	Eben Paxton
1710-20355		1710-20355	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	PNW	mixture	1999	MAR	19	Eben Paxton
1710-20356		1710-20356	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	PNW	mixture	1999	MAR	19	Eben Paxton
1710-20357		1710-20357	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	PNW	mixture	1999	MAR	19	Eben Paxton
1710-46132		1710-46132	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	PNW	mixture	2000	MAR	23	Eben Paxton
1710-46144		1710-46144	fluidigm	Feather	CR	Chomes	10.0693	-84.8993	Wintering	PNW	mixture	NA	NA	NA	Eben Paxton
2150-26560		2150-26560	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	PNW	mixture	2000	FEB	8	Eben Paxton
2150-26569		2150-26569	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	PNW	mixture	2000	FEB	8	Eben Paxton
2150-26570		2150-26570	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	PNW	mixture	2000	FEB	9	Eben Paxton
2150-26572		2150-26572	fluidigm	Feather	EL	La Barra de S	13.692	-89.943	Wintering	PNW	mixture	2000	FEB	9	Eben Paxton
2150-26521		2150-26521	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	FEB	1	Eben Paxton
2150-26522		2150-26522	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	FEB	1	Eben Paxton
2150-26536		2150-26536	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	FEB	1	Eben Paxton
2150-26555		2150-26555	fluidigm	Feather	EL	San Juan SE	13.368	-88.1597	Wintering	PNW	mixture	2000	FEB	1	Eben Paxton

2150-26520		2150-26520	fluidigm	Feather	EL	Jocotal E. (El	13.3192	-88.2432	Wintering	PNW	mixture	2000	JAN	31	Eben Paxton
2150-26553		2150-26553	fluidigm	Feather	EL	Jocotal E. (El	13.3192	-88.2432	Wintering	PNW	mixture	2000	JAN	31	Eben Paxton
2150-26549		2150-26549	fluidigm	Feather	EL	Jocotal W. (D	13.3262	-88.2697	Wintering	PNW	mixture	2000	JAN	30	Eben Paxton
2150-26535		2150-26535	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	JAN	2	Eben Paxton
2150-26548		2150-26548	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	JAN	2	Eben Paxton
2150-26562		2150-26562	fluidigm	Feather	EL	Nancuchinam	13.3413	-88.719	Wintering	PNW	mixture	2000	JAN	2	Eben Paxton
2150-26551		2150-26551	fluidigm	Feather	EL	Olomega RR	13.3323	-88.0197	Wintering	PNW	mixture	2000	JAN	29	Eben Paxton
2330-99781	05N9739	2330-99781	fluidigm	Feather	GUAT	El Rico, Los A	15.246805	-89.1036	Wintering	PNW	mixture	2005	DEC	12	Mary Whitfield
2330-99787	05N9753	2330-99787	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	PNW	mixture	2005	DEC	16	Mary Whitfield
2330-99793	05N9755	2330-99793	fluidigm	Feather	GUAT	Finca Las Oja	14.014981	-90.3934	Wintering	PNW	mixture	2005	DEC	23	Mary Whitfield
2410-67719	05N9768	2410-67719	fluidigm	Feather	GUAT	Finca Las Oja	14.014981	-90.3934	Wintering	PNW	mixture	2005	DEC	22	Mary Whitfield
2330-99790	05N9759	2330-99790	fluidigm	Feather	GUAT	Finca Yoland:	13.930099	-90.9126	Wintering	PNW	mixture	2005	DEC	20	Mary Whitfield
2330-99792	05N9771	2330-99792	fluidigm	Feather	GUAT	Finca Yoland:	13.930099	-90.9126	Wintering	PNW	mixture	2005	DEC	20	Mary Whitfield
2410-67712	05N9767	2410-67712	fluidigm	Feather	GUAT	Finca Yoland:	13.930099	-90.9126	Wintering	PNW	mixture	2005	DEC	19	Mary Whitfield
2240-94384	05N9769	2240-94384	fluidigm	Feather	GUAT	La Avellena	13.94695	-90.4421	Wintering	PNW	mixture	2005	DEC	22	Mary Whitfield
2240-94383	05N9757	2240-94383	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	21	Mary Whitfield
2410-67713	05N9763	2410-67713	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	20	Mary Whitfield
2410-67714	05N9762	2410-67714	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	20	Mary Whitfield
2410-67716	05N9764	2410-67716	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	21	Mary Whitfield
2410-67717	05N9765	2410-67717	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	21	Mary Whitfield
2410-67718	05N9766	2410-67718	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2005	DEC	21	Mary Whitfield
05N3264	05N3264	2330-99791	fluidigm	Feather	GUAT	La Avallena	13.94	-90.44	Wintering	PNW	mixture	2005	DEC	20	Mary Whitfield
2410-67767	07N2171	2410-67767	fluidigm	Feather	GUAT	La Guitarra, S	14.57433	-91.633	Wintering	PNW	mixture	2007	FEB	6	Mary Whitfield
2410-67768	07N2170	2410-67768	fluidigm	Feather	GUAT	La Guitarra, S	14.57433	-91.633	Wintering	PNW	mixture	2007	FEB	6	Mary Whitfield
2410-67744	07N2182	2410-67744	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	4	Mary Whitfield
2410-67745	07N2179	2410-67745	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	4	Mary Whitfield
2410-67746	07N2181	2410-67746	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	4	Mary Whitfield
2410-67747	07N2180	2410-67747	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	4	Mary Whitfield
2410-67748	07N2178	2410-67748	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	5	Mary Whitfield
2410-67749	07N2175	2410-67749	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	6	Mary Whitfield
2410-67794	07N2173	2410-67794	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	4	Mary Whitfield
2410-67795	07N2174	2410-67795	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	5	Mary Whitfield
2410-67796	07N2177	2410-67796	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	5	Mary Whitfield
2410-67797	07N2176	2410-67797	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	5	Mary Whitfield
2410-67798	07N2172	2410-67798	fluidigm	Feather	GUAT	Rio Achiguate	13.930099	-90.9126	Wintering	PNW	mixture	2007	FEB	6	Mary Whitfield
2410-67766	07N2168	2410-67766	fluidigm	Feather	GUAT	Rio Samala, S	14.57433	-91.633	Wintering	PNW	mixture	2007	FEB	5	Mary Whitfield
2410-67742	07N2155	2410-67742	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	PNW	mixture	2007	JAN	31	Mary Whitfield
2410-67743	07N2163	2410-67743	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	PNW	mixture	2007	JAN	31	Mary Whitfield
2410-67790	07N2154	2410-67790	fluidigm	Feather	GUAT	Finca La Caba	15.518396	-89.2995	Wintering	PNW	mixture	2007	JAN	31	Mary Whitfield
2410-67758	07N2166	2410-67758	fluidigm	Feather	GUAT	Finca Nueva,	15.246805	-89.1036	Wintering	PNW	mixture	2007	JAN	24	Mary Whitfield
2150-26597		2150-26597	fluidigm	Feather	MX	Cuanjinicuila	16.5	-98.4077	Wintering	PNW	mixture	2003	FEB	8	Eben Paxton
2240-94305		2240-94305	fluidigm	Feather	MX	Cuanjinicuila	16.5	-98.4077	Wintering	PNW	mixture	2003	FEB	9	Eben Paxton
2240-94348		2240-94348	fluidigm	Feather	MX	Cuanjinicuila	16.5	-98.4077	Wintering	PNW	mixture	2004	FEB	21	Eben Paxton
2240-94323		2240-94323	fluidigm	Feather	MX	East Habillal,	18.0177	-102.372	Wintering	PNW	mixture	2002	FEB	11	Eben Paxton
2240-94306		2240-94306	fluidigm	Feather	MX	Ixtapa, P. Lin	17.69	-101.64	Wintering	PNW	mixture	2002	FEB	19	Eben Paxton
2240-94308		2240-94308	fluidigm	Feather	MX	Ixtapa, P. Lin	17.69	-101.64	Wintering	PNW	mixture	2002	FEB	18	Eben Paxton
2240-94318		2240-94318	fluidigm	Feather	MX	Ixtapa, P. Lin	17.69	-101.64	Wintering	PNW	mixture	2002	FEB	18	Eben Paxton
2240-94320		2240-94320	fluidigm	Feather	MX	L. de Piterro	17.175	-100.607	Wintering	PNW	mixture	2002	FEB	13	Eben Paxton
2240-94321		2240-94321	fluidigm	Feather	MX	L. de Piterro	17.175	-100.607	Wintering	PNW	mixture	2002	FEB	13	Eben Paxton
2240-94302		2240-94302	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	12	Eben Paxton
2240-94303		2240-94303	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	12	Eben Paxton
2240-94304		2240-94304	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	12	Eben Paxton
2240-94315		2240-94315	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	12	Eben Paxton
2240-94349		2240-94349	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	23	Eben Paxton
2240-94350		2240-94350	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2003	FEB	23	Eben Paxton
2240-94316		2240-94316	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2003	FEB	13	Eben Paxton
2240-94317		2240-94317	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2003	FEB	14	Eben Paxton
2240-94339		2240-94339	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2003	FEB	13	Eben Paxton
2240-94340		2240-94340	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2003	FEB	13	Eben Paxton
2240-94341		2240-94341	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2003	FEB	14	Eben Paxton
2240-94374		2240-94374	fluidigm	Feather	MX	Lag. Pampa e	14.7226	-92.4199	Wintering	PNW	mixture	2004	FEB	28	Eben Paxton
2240-94325		2240-94325	fluidigm	Feather	MX	Manzanillo A	19.1562	-104.558	Wintering	PNW	mixture	2002	FEB	6	Eben Paxton
2240-94353		2240-94353	fluidigm	Feather	MX	Marquelia, G	16.5835	-98.8255	Wintering	PNW	mixture	2003	FEB	26	Eben Paxton
2240-94301		2240-94301	fluidigm	Feather	MX	Puerto Escod	15.8084	-97.0016	Wintering	PNW	mixture	2003	FEB	11	Eben Paxton
2240-94326		2240-94326	fluidigm	Feather	MX	Rio Aguacate	19.22	-104.64	Wintering	PNW	mixture	2002	FEB	5	Eben Paxton
2150-26600		2150-26600	fluidigm	Feather	MX	Rio Chila, Oa	16.4999	-98.4088	Wintering	PNW	mixture	2003	FEB	10	Eben Paxton
2240-94351		2240-94351	fluidigm	Feather	MX	Rio Copalita,	15.7925	-96.0495	Wintering	PNW	mixture	2003	FEB	25	Eben Paxton
2240-94352		2240-94352	fluidigm	Feather	MX	Rio Copalita,	15.7925	-96.0495	Wintering	PNW	mixture	2003	FEB	25	Eben Paxton
2330-99710		2330-99710	fluidigm	Feather	MX	Rio Copalita,	15.7925	-96.0495	Wintering	PNW	mixture	2004	FEB	22	Eben Paxton
2330-99711		2330-99711	fluidigm	Feather	MX	Rio Copalita,	15.7925	-96.0495	Wintering	PNW	mixture	2004	FEB	23	Eben Paxton
2240-94329		2240-94329	fluidigm	Feather	MX	San Blas - Cro	21.5257	-105.222	Wintering	PNW	mixture	2002	FEB	1	Eben Paxton
2240-94330		2240-94330	fluidigm	Feather	MX	San Blas - Cro	21.5257	-105.222	Wintering	PNW	mixture	2002	FEB	1	Eben Paxton
2240-94313	06N30218	2240-94313	fluidigm	Feather	MX	San Blas - Cro	21.5277	-105.22	Wintering	PNW	mixture	2002	FEB	1	Eben Paxton
2240-94338		2240-94338	fluidigm	Feather	MX	San Isidro, Ch	15.7034	-93.3809	Wintering	PNW	mixture	2003	FEB	17	Eben Paxton
2240-94343		2240-94343	fluidigm	Feather	MX	Santa Rita, O	16.3003	-94.5048	Wintering	PNW	mixture	2003	FEB	18	Eben Paxton
2240-94378		2240-94378	fluidigm	Feather	MX	La Barra, Chi	15.8895	-93.7104	Wintering	PNW	mixture	2004	MAR	7	Eben Paxton
2330-99745		2330-99745	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	24	Mary Whitfield
2330-99758		2330-99758	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	23	Mary Whitfield
2330-99759		2330-99759	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	23	Mary Whitfield
2330-99760		2330-99760	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	24	Mary Whitfield
2330-99726		2330-99726	fluidigm	Feather	MX	Rd to Quimic	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	24	Mary Whitfield
2330-94329		2330-94329	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	20	Mary Whitfield
2330-99124		2330-99124	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99738		2330-99738	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	15	Mary Whitfield
2330-99741		2330-99741	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	16	Mary Whitfield
2330-99742		2330-99742	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99743		2330-99743	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99752		2330-99752	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	20	Mary Whitfield
2330-99753		2330-99753	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99754		2330-99754	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99755		2330-99755	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99756		2330-99756	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	18	Mary Whitfield
2330-99757		2330-99757	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2004	DEC	20	Mary Whitfield
2150-26598		2150-26598	fluidigm	Feather	MX	Cuanjinicuila	16.47036	-98.4126	Wintering	PNW	mixture	2003	FEB	8	Mary Whitfield
2150-26599		2150-26599	fluidigm	Feather	MX	Cuanjinicuila	16.47036	-98.4126	Wintering	PNW	mixture	2003	FEB	8	Mary Whitfield
2330-99718		2330-99718	fluidigm	Feather	MX	Cuanjinicuila	16.47036	-98.4126	Wintering	PNW	mixture	2004	FEB	20	Mary Whitfield
2240-04327		2240-04327	fluidigm	Feather	MX	Lag. ? near R.	19.39757	-104.969	Wintering	PNW	mixture	2002	FEB	4	Mary Whitfield
2150-26564		2150-26564	fluidigm	Feather	MX	Manzanillo A	19.16164	-104.559	Wintering	PNW	mixture	2002	FEB	7	Mary Whitfield
2410-67720	06N30199	2410-67720	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	24	Mary Whitfield
2410-67721	06N30198	2410-67721	fluidigm	Feather	MX	Novillero, Na	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	25	Mary Whitfield
2330-99739	06N30206	2330-99739	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	28	Mary Whitfield
2410-67722		2410-67722	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	3	Mary Whitfield
2410-67723		2410-67723	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	3	Mary Whitfield
2410-67741	06N30219	2410-67741	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	28	Mary Whitfield
2330-99725	06N30207	2330-99725	fluidigm	Feather	MX	Quimichi, No	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	25	Mary Whitfield
2330-99794	06N30221	2330-99794	fluidigm	Feather	MX	Quimichi, No	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	24	Mary Whitfield
2410-67735		2410-67735	fluidigm	Feather	MX	Quimichi, No	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	23	Mary Whitfield
2410-67737	06N30196	2410-67737	fluidigm	Feather	MX	Quimichi, No	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	23	Mary Whitfield
2410-67740	06N30220	2410-67740	fluidigm	Feather	MX	Quimichi, No	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	24	Mary Whitfield
2240-94371		2240-94371	fluidigm	Feather	MX	Rv≠o Copalit:	15.79279	-96.0488	Wintering	PNW	mixture	2004	FEB	22	Mary Whitfield
2240-94372		2240-94372	fluidigm	Feather	MX	Rv≠o Copalit:	15.79279	-96.0488	Wintering	PNW	mixture	2004	FEB	23	Mary Whitfield

2330-99720		2330-99720	fluidigm	Feather	MX	RV≠o Copalit	15.79279	-96.0488	Wintering	PNW	mixture	2004	FEB	23	Mary Whitfield
2240-04328		2240-04328	fluidigm	Feather	MX	Rio Cuixmala	19.39757	-104.969	Wintering	PNW	mixture	2002	FEB	3	Mary Whitfield
2330-99740	06N30205	2330-99740	fluidigm	Feather	MX	San Blas, Coc	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	28	Mary Whitfield
2240-94392	06N30208	2240-94392	fluidigm	Feather	MX	SE San Blas, N	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	28	Mary Whitfield
2330-99744	06N30204	2330-99744	fluidigm	Feather	MX	SE San Blas, N	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	27	Mary Whitfield
2330-99795	06N30222	2330-99795	fluidigm	Feather	MX	SE San Blas, N	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	27	Mary Whitfield
2330-99796	06N30223	2330-99796	fluidigm	Feather	MX	SE San Blas, N	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	27	Mary Whitfield
2330-99797	06N30224	2330-99797	fluidigm	Feather	MX	SE San Blas, N	22.39511	-105.55	Wintering	PNW	mixture	2006	FEB	28	Mary Whitfield
2230-99721		2230-99721	fluidigm	Feather	MX	La Barra Vieja	16.72081	-99.6002	Wintering	PNW	mixture	2004	MAR	7	Mary Whitfield
2230-99722		2230-99722	fluidigm	Feather	MX	La Barra Vieja	16.72081	-99.6002	Wintering	PNW	mixture	2004	MAR	7	Mary Whitfield
2240-94377		2240-94377	fluidigm	Feather	MX	La Barra Vieja	16.72081	-99.6002	Wintering	PNW	mixture	2004	MAR	6	Mary Whitfield
2240-94379		2240-94379	fluidigm	Feather	MX	La Barra Vieja	16.72081	-99.6002	Wintering	PNW	mixture	2004	MAR	7	Mary Whitfield
2240-94380		2240-94380	fluidigm	Feather	MX	La Barra Vieja	16.72081	-99.6002	Wintering	PNW	mixture	2004	MAR	7	Mary Whitfield
2240-94375		2240-94375	fluidigm	Feather	MX	Marquelia, G	16.58252	-98.8259	Wintering	PNW	mixture	2004	MAR	4	Mary Whitfield
2240-94376		2240-94376	fluidigm	Feather	MX	Marquelia, G	16.58252	-98.8259	Wintering	PNW	mixture	2004	MAR	4	Mary Whitfield
2240-94381	06N30217	2240-94381	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	MAR	3	Mary Whitfield
2240-94387	06N30214	2240-94387	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	MAR	3	Mary Whitfield
2240-94388	06N30213	2240-94388	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	MAR	3	Mary Whitfield
2240-94391	06N30212	2240-94391	fluidigm	Feather	MX	NW San Blas,	22.39511	-105.55	Wintering	PNW	mixture	2006	MAR	3	Mary Whitfield
18N00309	18N00309	224094389	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	PNW	mixture	2018	FEB	8	Mary Whitfield
18N00310	18N00310	224094389	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	PNW	mixture	2018	FEB	8	Mary Whitfield
18N00313	18N00313	233099924	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	PNW	mixture	2018	FEB	10	Mary Whitfield
18N00314	18N00314	233099925	fluidigm	Feather	NICA	Cosiguina	12.89	-87.49	Wintering	PNW	mixture	2018	FEB	10	Mary Whitfield
18N00327	18N00327	233099922	fluidigm	Feather	NICA	Cosiguina	12.88	-87.49	Wintering	PNW	mixture	2018	FEB	11	Mary Whitfield
18N00397	18N00397	233099798	fluidigm	Feather	NICA	Cosiguina	12.88	-87.49	Wintering	PNW	mixture	2016	FEB	9	Mary Whitfield
18N00328	18N00328	233099800	fluidigm	Feather	NICA	Potosi	12.95	-87.49	Wintering	PNW	mixture	2018	FEB	11	Mary Whitfield
18N00329	18N00329	233099799	fluidigm	Feather	NICA	Potosi	12.95	-87.49	Wintering	PNW	mixture	2018	FEB	11	Mary Whitfield
18N00324	18N00324	233099915	fluidigm	Feather	NICA	Reserva Natu	12.25	-86.34	Wintering	PNW	mixture	2018	FEB	1	Mary Whitfield
241067774		241067774	fluidigm	Feather	NICA	CabaÔa los P	12.887293	-87.49636	Wintering	PNW	mixture	2017	JAN	27	Mary Whitfield
241067728		241067728	fluidigm	Feather	NICA	CabaÔa los P	12.887084	-87.497	Wintering	PNW	mixture	2017	JAN	18	Mary Whitfield
241067776		241067776	fluidigm	Feather	NICA	La Piscina, Co	12.955452	-87.4932	Wintering	PNW	mixture	2017	JAN	28	Mary Whitfield
224094390		224094390	fluidigm	Feather	NICA	Laguna la Tisi	12.085834	-85.43054	Wintering	PNW	mixture	2017	JAN	26	Mary Whitfield
96N2148	96N2148	NA	fluidigm	Feather	OAX	Jose la Garzo	16.64003	-96.6556	Wintering	PNW	mixture	1996	DEC	20	BM
96N2171	96N2171	NA	fluidigm	Feather	OAX	Jose la Garzo	16.64003	-96.6556	Wintering	PNW	mixture	1996	DEC	21	BM
96N2189	96N2189	NA	fluidigm	Feather	OAX	Jose la Garzo	16.64003	-96.6556	Wintering	PNW	mixture	1996	DEC	19	BM
96N2205	96N2205	NA	fluidigm	Feather	OAX	Jose la Garzo	16.64003	-96.6556	Wintering	PNW	mixture	1996	DEC	20	BM
2150-26574		2150-26574	fluidigm	Feather	CR	Playa Caleta	9.759	-85.266	Wintering	SSW	mixture	2000	FEB	11	Eben Paxton
1710-46345		1710-46345	fluidigm	Feather	CR	Bolson	10.3552	-85.4195	Wintering	SSW	mixture	2001	JAN	1	Eben Paxton
1710-20353		1710-20353	fluidigm	Feather	CR	Santa Cruz	10.329	-85.6495	Wintering	SSW	mixture	1999	MAR	18	Eben Paxton
18N00396	18N00396	233099920	fluidigm	Feather	NICA	Cosiguina	12.88	-87.49	Wintering	SSW	mixture	2016	FEB	9	Mary Whitfield
241067724		241067724	fluidigm	Feather	NICA	CabaÔa los P	12.887293	-87.49636	Wintering	SSW	mixture	2017	JAN	15	Mary Whitfield
241067753		241067753	fluidigm	Feather	NICA	CabaÔa los P	12.887084	-87.497	Wintering	SSW	mixture	2017	JAN	18	Mary Whitfield
241067755		241067755	fluidigm	Feather	NICA	CabaÔa los P	12.887084	-87.497	Wintering	SSW	mixture	2017	JAN	18	Mary Whitfield
241067727		241067727	fluidigm	Feather	NICA	Finca de San	12.798346	-87.1575	Wintering	SSW	mixture	2017	JAN	17	Mary Whitfield
241067750		241067750	fluidigm	Feather	NICA	Finca de San	12.798346	-87.1575	Wintering	SSW	mixture	2017	JAN	17	Mary Whitfield
241067732		241067732	fluidigm	Feather	NICA	Laguna la Tisi	12.085834	-85.43054	Wintering	SSW	mixture	2017	JAN	25	Mary Whitfield
241067771		241067771	fluidigm	Feather	NICA	Laguna la Tisi	12.085834	-85.43054	Wintering	SSW	mixture	2017	JAN	26	Mary Whitfield
18N00394	18N00394	233099913	fluidigm	Feather	NICA	Reserva Natu	12.25	-86.34	Wintering	SSW	mixture	2016	JAN	31	Mary Whitfield