National Protected Species Assessment Workshop: Novel methods for abundance and trends assessment and data poor bycatch estimation for protected species
AFSC Sand Point Facility, Seattle, WA January 17–19, 2017

Tuesday, January 17
8:00 Registration

INTRODUCTORY SESSION

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Welcome and logistics (Erin Oleson &amp; Sean Hayes)</td>
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<td>8:40</td>
<td>Historical context of NOAA Fisheries first national protected species assessment workshop (Ned Cyr and Steve Brown)</td>
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<td>8:50</td>
<td>Chief Scientist Perspective (Richard Merrick)</td>
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<td>9:10</td>
<td>Keynote Speaker (Doug DeMaster)</td>
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<td>9:55</td>
<td>Plenary Speaker (Rick Methot)</td>
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10:25 BREAK

NOVEL ANALYTICAL APPROACHES TO POPULATION VIABILITY AND RISK ASSESSMENT (PART 1)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>10:40</td>
<td>Model based approaches to support consistent extinction risk assessment for ESA status reviews (Charlotte Boyd)</td>
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<td>10:55</td>
<td>Old model, new tricks: Eulachon recovery assessment via a reconditioned salmon model (Tom Wainwright)</td>
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<td>11:10</td>
<td>Simulations to evaluate direct and indirect impacts of commercial fishing on marine mammal recovery (Laurel Smith, presented by Jason Link)</td>
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<td>11:25</td>
<td>MARSS models for PVA (Nick Tolimieri)</td>
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<td>11:40</td>
<td>Discussion</td>
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<td>12:00</td>
<td>LUNCH</td>
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NOVEL DATA COMBINATIONS FOR TREND ESTIMATION

13:00 When every bit of information matters: Bayesian hierarchical models for combining data for protected species (Jay M. Ver Hoef)
13:15 Estimating cetacean abundance trends from survey time series: integrating multiple data sources within a Bayesian framework (Jeffrey Moore)
13:30 agTrend: an R package for regional trend estimation from site level survey data (Devin S. Johnson)
13:45 Bayesian capture-recapture and integrated population models for assessing population trends in threatened oceanic manta rays (Joshua D. Stewart)
14:00 Combining sparse, dissimilar data sources in a Bayesian hierarchical model for assessment of a small harbor seal population (Peter Boveng)
14:15 Assessing populations of salmon using life cycle models (Rich Zabel)
14:30 Discussion

14:45 BREAK

NOVEL ANALYTICAL APPROACHES TO POPULATION VIABILITY AND RISK ASSESSMENT (PART 2)

15:00 Integrating climate projections into a population model for the Hawaiian green turtle (Summer Martin)
15:15 How do IUCN proxies for generation length perform? (Robin Waples)
15:30 Informing recovery goals based on historical population size and extant habitat (Bill Pine)
15:45 Assessing population-level impacts of marine turtle bycatch in the Hawaii longline fishery (T. Todd Jones)
16:00 Discussion

SPECIAL SESSION ON eDNA

16:15 A novel approach for studying stock structure of enigmatic marine vertebrates using targeted eDNA sampling (Kim Parsons)
16:30 From population structure to eDNA: Next-generation sequencing technology opens a window into the biology of deep-sea corals (Meredith Everett)
16:45 Detection and quantification of Chinook salmon in Skagit Bay using environmental DNA (James O’Donnell)
17:00 Discussion

DAY 1 WRAP-UP

17:15 General Discussion of Day 1
17:30 Adjourn
Wednesday, January 18
8:30    Welcome and logistics

8:45    Plenary Speaker (Jay Barlow)

ADVANCED TECHNOLOGY APPLICATIONS

9:30    A simulation framework to investigate the statistical power of passive acoustic networks to detect trends in cetacean abundance (Eiren Jacobson)
9:45    The use of free-floating vertical hydrophone arrays to assess the abundance of beaked whales and sperm whales (Jeffrey Moore)
10:00   Automated electro-optical, infrared surveys for ice associated seals and polar bears in the Chukchi Sea (Erin Moreland)
10:15   Discussion
10:30   BREAK

USING HABITAT RELATIONSHIPS TO ASSESS DENSITY AND ABUNDANCE (PART 1)

10:45   Moving towards dynamic ocean management: Using modeled ocean products to predict species abundance distribution and patterns (Elizabeth E. Becker)
11:00   Does incorporating spatio-temporal correlations among fishes and biogenic habitat improve estimates of abundance trends and distribution shifts? (Jim Thorson)
11:15   Spatiotemporal species distribution models for marine mammal population assessment: ice-associated seals in the Bering Sea (Paul Conn)
11:30   Estimation of abundance and trends for highly mobile species with dynamic spatial distributions (Charlotte Boyd)
11:45   Discussion
12:00   LUNCH

USING HABITAT RELATIONSHIPS TO ASSESS DENSITY AND ABUNDANCE (PART 2)

13:00   Development of the spatially explicit juvenile sea turtle density estimator: utility to management and validation methods (Paul M. Richards)
13:15   Juvenile North Pacific loggerhead life history (Cali Turner Tomaszewicz)
13:30   Environmental correlates of marine growth in Oregon coast chum salmon (Jeff Hard)
13:45   Estimating loggerhead sea turtle densities from satellite telemetry data using geostatistical mixed models (Megan Winton)
14:00   Estimating changes in abundance, species interactions, and community stability in a kelp forest ecosystem following the reintroduction of sea otters (Mark Scheuerell)
14:15   Discussion
14:30 BREAK

ADVANCES IN MARK-RECAPTURE METHODS

14:45 Estimating sea lion abundance from rookery pup counts and mark and recapture data (Devin S. Johnson)
15:00 Estimating salmon escapement across the Snake River basin: a novel approach using PIT tags (Kevin See)
15:15 Beyond cohort reconstruction, understanding Chinook salmon abundance and oceanic distribution in a changing world (Ole Shelton)
15:30 Discussion

15:45 POSTER PITCH SESSION

DAY 2 WRAP-UP

16:30 General discussion of Theme 1- Days 1 & 2
17:00 Adjourn at Sand Point, travel to Silver Cloud Hotel
17:30-19:30 POSTER SESSION, Silver Cloud Hotel
Thursday, January 19
8:45 Welcome and logistics

9:00 What does poor data quality mean in the context of bycatch estimation in the U.S.? (Alex Curtis)
9:15 Discussion

NEW APPROACHES TO ROBUST ESTIMATION FOR RARE EVENT BYCATCH

9:45 Informing rare event bycatch estimation using prior knowledge (Chris Orphanides)
10:00 An R shiny tool for Bayesian bycatch estimation from a time series of fisheries observer data (Jeffrey Moore)
10:15 Estimating nonlanded impacts on endangered Sacramento Winter Chinook when few or no tags are recovered (Will Satterthwaite)
10:30 BREAK

NEW APPROACHES TO ROBUST ESTIMATION FOR RARE EVENT BYCATCH (cont)

10:45 Estimating bycatch from rare-event data with machine learning (James V. Carretta)
11:00 Estimating short-tailed albatross bycatch in U.S. West Coast groundfish fisheries (Thomas Good)
11:15 Albatross bycatch in Alaskan longline fisheries: modeling rates to inform trends (Kim Dietrich)
11:30 Was there an increase in leatherback sea turtle interactions in 2014? (Marti McCracken)
11:45 Discussion
12:00 LUNCH

INCORPORATING SPATIAL & TEMPORAL FACTORS INTO BYCATCH ASSESSMENTS

13:00 The utility of spatial model-based estimators of bycatch: future or folly? (Eric Ward)
13:15 Genetic mixture analysis used to model differential Chinook salmon ESU bycatch impacts under a new management scenario for the Pacific hake fishery (Paul Moran)
13:30 Identifying bycatch hotspots in data limited scenarios: using Bayesian spatial models to estimate bycatch of green sturgeon in California halibut fishery (Yong-Woo Lee)
13:45 Overlapping spatial distributions of Pollock fishing and salmon bycatch in the Bering Sea (Jordan Watson)
14:00 Predicting fisheries bycatch risk for dynamic spatial management: how do different spatial models compare? (Brian Stock)
14:15 Discussion
14:30 BREAK

CRYPTIC MORTALITY & SERIOUS INJURY

14:45 Cryptic mortality bias correction for estimates of human caused mortality and serious injury (Dennis Heinemann)
15:00 Latent right whale entanglement mortality (Richard M. Pace, III)
15:15 Unobserved seabird interactions with trawl cables on U.S. West Coast Pacific hake at-sea catcher processor vessels (Jason Jannot)
15:30 Discussion

ELECTRONIC MONITORING

15:45 Can electronic monitoring improve estimates of protected species bycatch? (John Carlson)
16:00 The era of machines that see (Farron Wallace)
16:15 Discussion

DAY 3 WRAP-UP & WORKSHOP CONCLUSION

16:30 General discussion on Day 3 and Discussion of next PSAW topics
17:00 Adjourn