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

8:30	Welcome and logistics **(Erin Oleson & Sean Hayes)**
8:40	Historical context of NOAA Fisheries first national protected species assessment workshop **(Ned Cyr and Steve Brown)**
8:50	Chief Scientist Perspective **(Richard Merrick)**
9:10	Keynote Speaker **(Doug DeMaster)**
9:55	Plenary Speaker **(Rick Methot)**

10:25   BREAK

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

10:40	Model based approaches to support consistent extinction risk assessment for ESA status reviews **(Charlotte Boyd)**
10:55	Old model, new tricks: Eulachon recovery assessment via a reconditioned salmon model **(Tom Wainwright)**
11:10	Simulations to evaluate direct and indirect impacts of commercial fishing on marine mammal recovery **(Laurel Smith, presented by Jason Link)**
11:25	MARSS models for PVA **(Nick Tolimieri)**
11:40	Discussion

12:00   LUNCH

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 Sattherthwaite)**

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