Linking Fisheries Data to Data/Management Objectives

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FM&CR info essential to Fisheries Management.

- Understanding resource abundance & status
- Understanding harvests; #s, scale, locations,
- Understanding harvest impacts; on habitat, ecosystems,
- Information basis of integrated and co-management and shared confidence in fisheries management regimes. (Ocean and watershed planning, co-management)

Consequences of Under Monitoring

- Some Examples:
  - Extinction risk for one or more species (target/non-target)
  - Conservation risk
  - FSC risk
  - Unsustainable fisheries
  - Economic impacts (no eco-certification, no traceability)
  - No public confidence
  - International implications

FM&CR essential to FN Fisheries Management role.

- Tangible benefits to FN from improved FSC monitoring;
  - Improved sustainability of fisheries – FSC should be first to benefit
  - Highlights critical importance of improvements in other harvesters' data and fisheries
  - With credible FSC catch monitoring, easier to demonstrate a lack of opportunity, then discussion focuses on management alternatives.
  - Detailed/accurate data can identify serial depletion and stock and species status issues
  - Reliable catch and effort data key to resolving shellfish and groundfish access issues.

Fisheries Data – achieving Conservation Objectives & /Managing Conservation risk.

Target Catch Monitoring Objectives:

- by monitoring progress (catch #s) toward established harvest limit(s) & TAC(s). = catch #s by species.
- Quotas and defined shares need explicit catch data
- Credible catch data usually required in near real-time to maintain/extend access.
- IFMPs typically identify specific management objectives and sources of data for in-season decisions.
- Relationship to WSP; target stock status (green/yellow/red zones), limit reference points and harvest rates

  -e.g. commercial TACs, component harvest shares within a 'share-plan'/ allocation framework
- Managing conservation risk by monitoring success/effectiveness of a harvest strategy.

  -e.g., Cultus (& late run Fr. SX) exploitation rate and/or rebuilding escapement target
- Information also used for post-season purposes; e.g. run reconstructions, ocean survival estimates, better understanding stock responses to various factors such as ecosystem shifts, and strategic approaches and adaptive management.

Fisheries Data – achieving Conservation Objectives & /Managing Conservation risk.

Non-target species/stock objectives:

- Increasingly fishing opportunities are driven by limits to non-target stocks/species (WSP status zone indicators –g/y/r zones, SARA endangered/threatened/); exploitation rates;
  - E.g. Cultus SX, Thompson Co, etc,
- Shifting stock components provide info on both run timing and abundance of returns (e.G. Fraser SX run timing and fishing targets)
- Growing importance of by-catch of other species, such as birds, marine mammals

Habitat and other ecosystem impacts: (recognition of connectedness)

- Specific times and location of harvesting activities.
  - E.g. potential habitat impacts from bottom trawls, bird by-catch in salmon net fisheries
  - E.g. potential ecosystem impacts related to key species, predator/prey relationships

Fisheries Data – achieving Conservation Objectives & /Managing Conservation risk.

- Importance of documenting harvesting ‘effort’ when managing conservation risk:
  - Overall potential impact from relative harvesting capacity;
    - E.g. size of fleet, number of fisherman, capacity of gear (seine vs single hook), duration of harvest opportunity,
  - Key to determining catch from surveys using CPUE and effort.
  - Importance of representative sampling

Fisheries Data – achieving other Management Objectives

- To meet international commitments/ treaties:
  - E.g. PST requirement;
  - E.g. FN Treaty requirements- to determine ability to meet FSC obligations
  - E.g. traceability requirements/MSC certification; requires documented (verified) landing in authorized fishery