



e-MONITORING

WHY is ISSF interested?

- Proven, effective, monitoring tool
- Supplement human observers
- Higher coverage: Longline + small purse seine
- Attractive to vessel owners, scientists and managers
- Improve transparency, management, MCS, data collection
- Manufacturers are competing and creating better products

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Conclusion

Electronic Monitoring is ONE of many tools that can be used to monitor fisheries

- EMS is not just about placing cameras on a vessel
- It needs careful planning to meet the objectives (which means that the Objectives need to be clearly defined, first)
- EMS needs to be tailored to the particular situation (to the vessel level)



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ISSF Participating Companies

**75+%
OF THE WORLD'S
CANNED TUNA
PROCESSING
CAPACITY**

- + Global Engagement
- + Full & Associate Member Categories
- + Growing Participation: Small/Large & New Regions



MAKE THE COMMITMENT

ISSF Conservation Measures

<http://issf-foundation.org/resources/downloads/?did=382>

- The ISSF Board adopts science-based, conservation measures to support RFMO management in key areas, including:

Traceability

Reduce Bycatch

Eliminate IUU

Strengthen Monitoring, Control & Surveillance (e.g. Observers)

Limit Capacity

- All ISSF participating companies must comply.
- ISSF participating company compliance is audited by a third-party, MRAG, according to a rigorous and transparent protocol.

Credible. Independent. Transparent.

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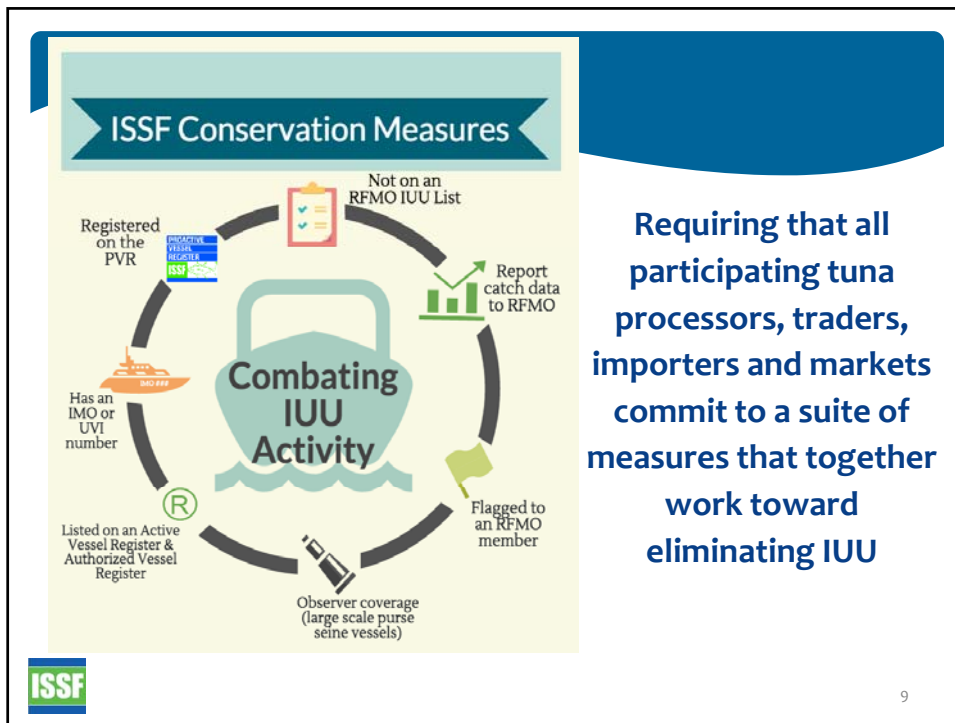
MAKE THE COMMITMENT

ISSF Conservation Measures

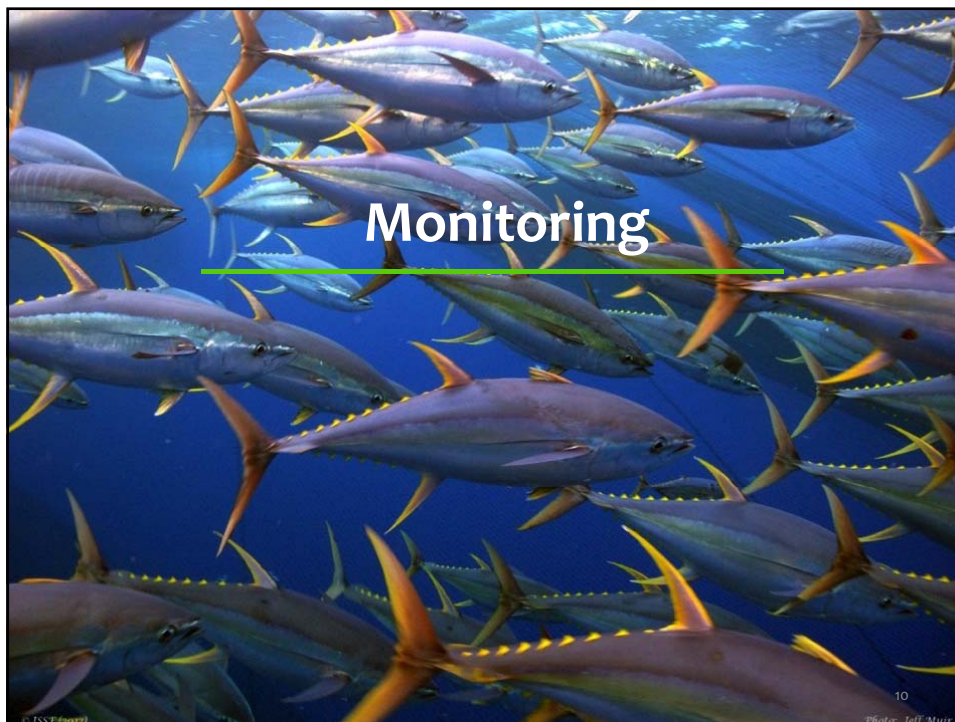
- Foster implementation and validation of science-based, best practices.

Traceability	No IUU Listing	Capacity
Observers	Withdrawal if IUU Found	Large-Scale Pelagic Driftnets
RFMO Data Support	Authorized RFMO List	No Transactions with Vessels that Carry Out Shark Finning
Register All Controlled Purse Seine Vessels on PVR	RFMO Participation	No Transactions with Companies that Do Not Have a Public Policy Against Shark Finning
<i>Independent, Transparent Auditing & Reporting</i>	IMO UVI	Skippers Training
	Unique Vessel Identifier (UVI)	Full Retention
	No Transshipment	

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Requiring that all participating tuna processors, traders, importers and markets commit to a suite of measures that together work toward eliminating IUU



Monitoring

When developing a monitoring strategy, you should start with the following questions:

1. What is required in terms of the fishery you are managing?
2. What is feasible in terms of the legal framework?
3. What is realistic in terms of available resources?
4. What is practically possible to implement taking into consideration the situation?



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Monitoring

Core components of monitoring

1. Before fishing
2. **While fishing**
3. During landing/transshipment
4. Post landing

Logbooks, observers, EMS, VMS, patrols, inspection, satellite imagery



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At-sea Monitoring

At-sea monitoring is useful to:

- Collect time, date and position information for activities and catches (including biological data?)
- Ensure compliance with certain controls such as bycatch or discard regulations that require continuous monitoring.
- Monitor for area and season restrictions and provide valuable information for the scientific Agency.
- Contribute to deterrence and create transparency among fishers.



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EMS and Observers

	Observer	EMS
Confirm if any catch is discarded	Needs to be present	Requires proper camera placement
Discard species and amounts	Needs access to handling area. May take biological samples	Requires dedicated space. More complicated in high-volume fisheries
Retained catch total	Needs to be present (but often gets data from fishing master)	Requires proper camera placement
Retained species and amounts	Needs access to handling area.	More complicated in high-volume fisheries with several species
Spatial information on fishing trip and fishing events	GPS	Continuous



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EMS needs

A successful EMS needs to:

1. Be flexible to satisfy various objectives;
2. Be scalable to match needs and capabilities;
3. Be inclusive and collaborative with the fishing industry, management and enforcement agencies, science providers, service providers, and other stakeholders such that they can participate in the design, development, and implementation of the program.



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Longline and EMS

Difficulties/opportunities faced (5% observer coverage required by RFMOs)

- Long trips (3+ or 6+ months): EMS easier than observers but need to consider maintenance/cleaning
- Often small vessels with little space: OK for EMS
- Crew not comfortable being observed: Difficult for both observers and EMS
- ROP standards have been developed for human observer programs. Accommodating EMS needs planning



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New Grounds

When implementing EMS, new ground will be covered. Like with observers, or VMS, management agency and industry need to think about:

- Confidentiality of the data
- Data ownership
- Chain of custody
- Transfer and storage of the data
- Integration of the EM data with other data systems



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Pilot projects

Pilot testing of EMS is a good way forward

- Need to have clear objectives to test
- Pilots facilitate dialogue between all stakeholders
- Pilots allows vendors to adapt to the needs
- Fear of new grounds can only be overcome by testing



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