

**2005 Work Plan for ISC Marlin Working Group
Discussion Paper¹**

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The first meeting of the Marlin Working Group (MARLIN-WG) of the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) was convened in 2004 during the 4th meeting of the ISC in Honolulu, Hawaii. The purpose of the meeting was to bring together scientists conducting research on Pacific marlins, review information concerning marlin resources in the North Pacific, including the quality and limitations of existing data, and develop a work plan to support stock assessments. A work plan was drafted during the meeting and requisite research to support marlin stock assessments was identified. The prescribed research falls into four categories, 1) Oceanographic, 2) Biological, 3) Resource Assessment and Model Development, and 4) Monitoring and Data Collection, and progress has been made in all areas. Under the categories of oceanography and biology, work is progressing on the use of conventional and PSAT tags to assess striped and blue marlin movement patterns, relative to oceanographic conditions. Collaborations have also been established between the IATTC and NMFS PIFSC to assess stock structure using genetic markers. Regional differences in size, sex ratio, and potential biases are proceeding through collaborations with scientists at the NRIFSF, NMFS PIFSC, and NTU.

Under the category of Resource Assessment and Model Development, an assessment “team” has been established consisting of scientists from the NMFS PIFSC, NRIFSF, and IATTC. A striped marlin stock assessment is scheduled to be completed by December 2005, at which point the MARLIN-WG will focus on Pacific blue marlin.

At the 4th ISC, the MARLIN-WG agreed on the fundamental importance of establishing a comprehensive database of marlin fishery data and making it accessible to MARLIN-WG scientists engaged in stock assessments and related research. To facilitate completion of a comprehensive database of marlin fishery data to support stock assessments, a joint intersessional meeting of the ISC Marlin, Swordfish, and Statistics working groups is tentatively scheduled for July 2005 in Vancouver, Canada. At this meeting the quality and limitations of existing data will be reviewed and updates made to the data made. In addition, the intersessional meeting will provide an opportunity to review the work plan for completeness, and establish additional collaborations to facilitate the research.

Attachment 4. Future Work Plan of the ISC4 Marlin Working Group

Objective	Research Project	Collaborators
1. Conduct biological and oceanographic research in support of improved stock assessment	<p>MOVEMENT:</p> <ul style="list-style-type: none"> a) Estimate patterns of movement using conventional tags b) Determine patterns of movement, behavior and post release mortality using PSAT tags <p>STOCK STRUCTURE:</p> <ul style="list-style-type: none"> a) Assess stock structure of striped marlin using genetic techniques <p>AGE AND GROWTH:</p> <ul style="list-style-type: none"> a) Continue to evaluate regional differences in size and sex ratio, and potential biases b) Evaluate utility of existing age and growth information c) Assemble conversion relationships among various length and/or weight measurements 	<p>Holts, Kazama</p> <p>Musyl, Yokawa</p> <p>Hinton, Univ. Southern Cal., PIFSC</p> <p>Saito, Yokawa, PIFSC, NTU</p> <p>PIFSC, NRIFSF, NTU</p> <p>PIFSC, NRIFSF</p>
2. Develop and apply stock assessment models	Develop and apply integrated, spatially-explicit models of stock and fishery dynamics incorporating effects of environment, gear, fishing practices, fleet dynamics, and other factors	Kleiber, Yokawa, Hinton, DiNardo
3. Develop comprehensive marlin fishery database	<ul style="list-style-type: none"> a) Construct abundance indices for major fisheries b) Collect and incorporate marlin fishery statistics from North Pacific countries not yet included in the database 	<p>Kleiber, Yokawa, Hinton</p> <p>All ISC member nations, MARLIN-WG, ISC Database Administrator</p>