



# R & E Grant Application 13 Biennium

Project #:  
13-066

## *Auto Fish dual sorter upgrade*

### ***Project Information***

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**R&E Project Request:** \$32,500.00  
**Match Funding:** \$63,750.00  
**Total Project:** \$96,250.00  
**Start Date:** 8/1/2014  
**End Date:** 6/30/2015  
**Project Email:** trevor.r.clark@state.or.us, david.p.fundak@state.or.us  
**Project Biennium:** 13 Biennium  
**Organization:** Fish Identification

### ***Applicant Information***

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**Name:** Trevor Clark  
**Email:** trevor.r.clark@state.or.us

### ***Past Recommended or Completed Projects***

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This applicant has no previous projects that match criteria.

### ***Project Summary***

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This project is NOT part of ODFW's 25 Year Angling Plan.

**Activity Type:** Miscellaneous (Enhancement)

**Summary:** Fish Stock Identification works to improve the assessment of fish population numbers to provide the best information possible on which to base management decisions. Every year the number of fish that Fish Stock Identification marks increases and the money to mark these fish becomes much more tenuous, thus it is imperative to become more efficient. Currently there are hatcheries and STEP facilities unable to mark 100% of their fish, this directly affects recreational and commercial fisheries. Improving the efficiency of the tagging and marking trailers will decrease the cost and duration of marking projects and allow more fish to be marked statewide. This can be accomplished by installing Northwest Marine Technologies (NMT) Dual Sorter System in one of our five line AutoFish trailers that ODFW owns.

**Objectives:** Primary Goal: To improve the accuracy, inventory and speed of ODFW AutoFish marking operations.  
The installation of NMT dual sorter system in one of our AutoFish trailers will increase the number of fish processed by 20%-50% with no additional labor costs. It will improve the efficiency and reduce the operating costs of marking operations,

allow us to mark and inventory more fish with the highly efficient AutoFish trailers, reduce stress and mortality caused by manual "hand" marking and the necessary anesthesia and finally reduce marking time and stress at individual hatcheries. Decreased marking costs could result in more money being used for other recreational or enhancement projects.

<b>Fishery Benefits:</b>	<p>Processing fish through AutoFish trailers results in better adipose fin clips and coded wire tag quality than processing each individual fish by hand. Higher accuracy of each will allow more fish to be harvested in fisheries and allow biologist to use the coded wire tag data to regulate fisheries. The Autofish trailers also have superior inventory accuracy compared to manual marking. In 2008, Fish Stock Identification marked and/or tagged 31,859,932 fish at ODFW facilities. At that time, only 38% of the fish were marked with the AutoFish Marking trailer while 62% were marked manually by hand. In 2013, 40,274,778 fish were marked of which 62% were processed by the AutoFish Marking trailer. We would like to continue this upward trend of marking more fish with AutoFish Marking trailers.</p> <p>ODFW Biologists use our numbers to determine the best course of action when assessing fish populations, including enhancement in harvest opportunities while supporting conservation of native fish.</p>
<b>Watershed Benefits:</b>	<p>Processing fish through AutoFish trailers is less stressful and results in less mortality than processing each fish individually by hand in manual marking trailers.</p>
<b>Current Situation:</b>	<p>We currently have three Autofish trailers that have single sorting systems and one autofish trailer that has a dual sorting system. The sorters separate fish by size to 5 or 6 processing lines that clip and tag each fish. Each processing line is set up by the supervisor to accept different size fish that the sorter has separated. Currently the dual channel trailer can process about 70 thousand fish per 8 hr shift while the single channel trailer can only process about 40 thousand per shift, a 40% difference between the two. Idaho Fish and Game has installed dual channel sorters in many of their trailers and has had a significant production increase of 20-50% through each of its trailers. The addition of a dual channel sorter will allow us to process more fish per day which in turn will save the agency time and money of which the later could be used for other recreational or enhancement projects.</p>
<b>Alternatives:</b>	<p>NMT is the sole source provider for all automated marking trailers that the state owns. As a result there are no other cost effective alternatives.</p>
<b>Designer:</b>	<p>Trevor R. Clark and David P Fundak(Senior Fish Marking Technician)- ODFW Fish Stock Identification</p>
<b>Methods:</b>	<p>A: NMT dual sorter Systems</p> <ol style="list-style-type: none"> <li>1) Ordering dual sorter Systems from Northwest Marine Technologies.</li> <li>2) Coordinating the designated trailer for the installation of the new sorter systems.</li> <li>3) Installation and inspection of the new sorter systems.</li> </ol>

**Inspector:** Ken Johnson (Project Leader) Trevor R. Clark and David P Fundak (Senior Fish Marking Technician) - ODFW Fish Stock Identification

**Funding Elements:** Restoration and Enhancement funds will aid in the purchase and installation of the dual sorter. It will not pay for the transportation up to Anacortes Washington where Northwest Marine Technologies is located.

**Partners:** No

**Existing Plan:** Yes

These upgrades will help support the increase in mark rates identified in the proposed Coastal Multispecies Conservation Plan. For example the mark rate of Coos fall Chinook releases will increase to 100%. The increase mark rate will provide managers options to increase hatchery harvest opportunity and rates and improve monitoring confidence.

**Affected Contacted:** Yes

**Affected Supportive:** Yes

**Affected Comments:** Supportive Individuals  
Ken Johnson (Project Leader)- ODFW Fish Stock Identification  
Scott Patterson - Fish Propagation Program Manager

**Project Schedule/Participants/Funding**

Activity	Date	Participants
Send out bid request	9/1/2014	Fish ID
Install sorter	11/1/2014	Contractor
Put back into service	3/1/2015	Fish ID

**Affected Species:**

- Chinook Salmon
- Chum Salmon
- Coho Salmon
- Steelhead

**Project Permits**

This project has no permits.

**Project Monitoring**

Organization	Address	Activity	Frequency
Fish Identification/Autofish Operators	,	Monitoring of the dual sorter will be done continuously throughout the day whenever the Autofish trailer is running because it is such a vital and important piece of equipment.	Daily

**Project Maintenance**

Organization	Address	Activity	Frequency
Fish Identification/Autofish Operators	17330 SE Evelyn St Clackamas, OR 97015	The dual channel sorter has a weekly scheduled maintenance plan that will be performed by the operator of the trailer. There is also preventive maintenance program during the off season.	Weekly and as needed.

## Project Match Funding

Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	\$32,500.00	\$0.00	\$0.00	Money requested to help pay for Dual Fish Counting System.	\$32,500.00	No	No	
Fish ID	\$0.00	\$15,000.00	\$0.00	Money requested to help pay for Dual Fish Counting System.	\$15,000.00	No	No	
Fish ID	\$0.00	\$0.00	\$48,750.00	Northwest Marine Technologies Credit	\$48,750.00	Yes	No	The dual Marking System costs \$96,250, Northwest Marine Technologies has stated that parts from existing sorter can be used to build the new sorter. this brings the cost down by 50%.
				Total Match Funding:	\$96,250.00			

## Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
Dual Sorter Upgrade	Equipment	1	\$96,250.00	\$32,500.00	\$63,750.00	\$96,250.00
					Total Budget:	\$96,250.00

## Project Map

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## Additional Files

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Click a link to view that particular file.

[Auto Trailer](#)

[Clipping Imaging](#)

[Clipping Imaging 3](#)

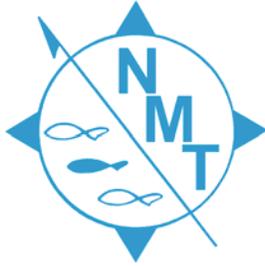
[Dual Channel Sorter](#)

[Imaging](#)

[Imaging Error](#)

[Imaging error 2](#)

[Price Quote](#)



## Quote

Northwest Marine Technology  
Box 427-Ben Nevis Rd  
Shaw Island, Washington 98286

Federal Tax I.D. No. 22-1935793

DATE: 16 January 2014

TO: David Fundak, ODFW

FROM: David Knutzen - NMT

1	Dual Sorter Upgrade to existing AutoFish unit Work to be performed in Anacortes WA, price does not include trailer shipping charges		\$47,500

**Total \$47,500**

**All Equipment carries NMT's standard one year warranty**

NMT appreciates this opportunity to do business. This quote is good for 30 days.

You may contact NMT at 360-596-9400 or email-  
dave.knutzen@nmt.us

**From:** Dave Knutzen [<mailto:dave.knutzen@nmt.us>]

**Sent:** Tuesday, January 21, 2014 9:09 AM

**To:** David P Fundak

**Subject:** Re: Dual Sorter Upgrade - price quote Jan 2014

New sorter is closer to 100k so you are saving at least 50k.

Sent from my iPhone

Dave Knutzen

Northwest Marine Technology

360.791.1320

**Applicant Signature Page**  
**Fish Restoration and Enhancement Program**  
(Oregon Department of Fish and Wildlife Applicants)

I hereby make an application for financial assistance under the terms and conditions of the Fish Restoration and Enhancement Program as described in my project application. I acknowledge that:

- This proposal is an identified priority at the  district,  region, and/or  state level and has been identified as such in the application (check box for appropriate level).
- This proposal is consistent with any applicable goals, policies, rules, species or basin management plans adopted by the F&W Commission and this has been explained in the application.
- This proposal will not be used to cover, back fill, or fund shift elements that have been cut or defunded as part of agency budget reductions. Approved deferred maintenance or projects with division approval are exceptions.

I understand that if my project proposal is approved for Restoration and Enhancement (R&E) Program funding, the following will apply:

- Applicants must sign an agreement containing the terms and conditions for the project implementation, release of funds, and documentation of completion. Non-compliance may impact future funding opportunities.
- The R&E Program will not pay for expenses which occur before the approved start date or after the end date.
- Funding is available one biennium only without prior authorization by the R&E Board.
- Applicant agrees to notify the R&E Program of all funds not needed for the project upon determination.
- Any inappropriate expenses using R&E funds will be corrected by the applicant immediately. By the close of the biennium any expenses exceeding, or not identified in, the grant approval will be reverted to a local cost code.
- Copies of all landowner, monitoring and maintenance agreements must be submitted to the R&E Program.
- Educational products resulting from projects are public domain.
- Information collected is subject to Oregon Public Records Law.
- As applicable, the project will be consistent with all federal, state, and local regulations, including the State Land Use Planning Goals & Local Land Use Plans, prior to any on the ground work.

By signing this application, I certify to the best of my knowledge that the information contained in the application are true, complete and accurate. If awarded funding the applicant agrees to follow all terms and conditions outlined in the agreement.

Project Title: Autofish Dual Sorter Upgrade  
Applicant Name: David Fundak Title: FW Technician SR  
Applicant Signature:  Date: 3/28/2014

**Manager Certification:**

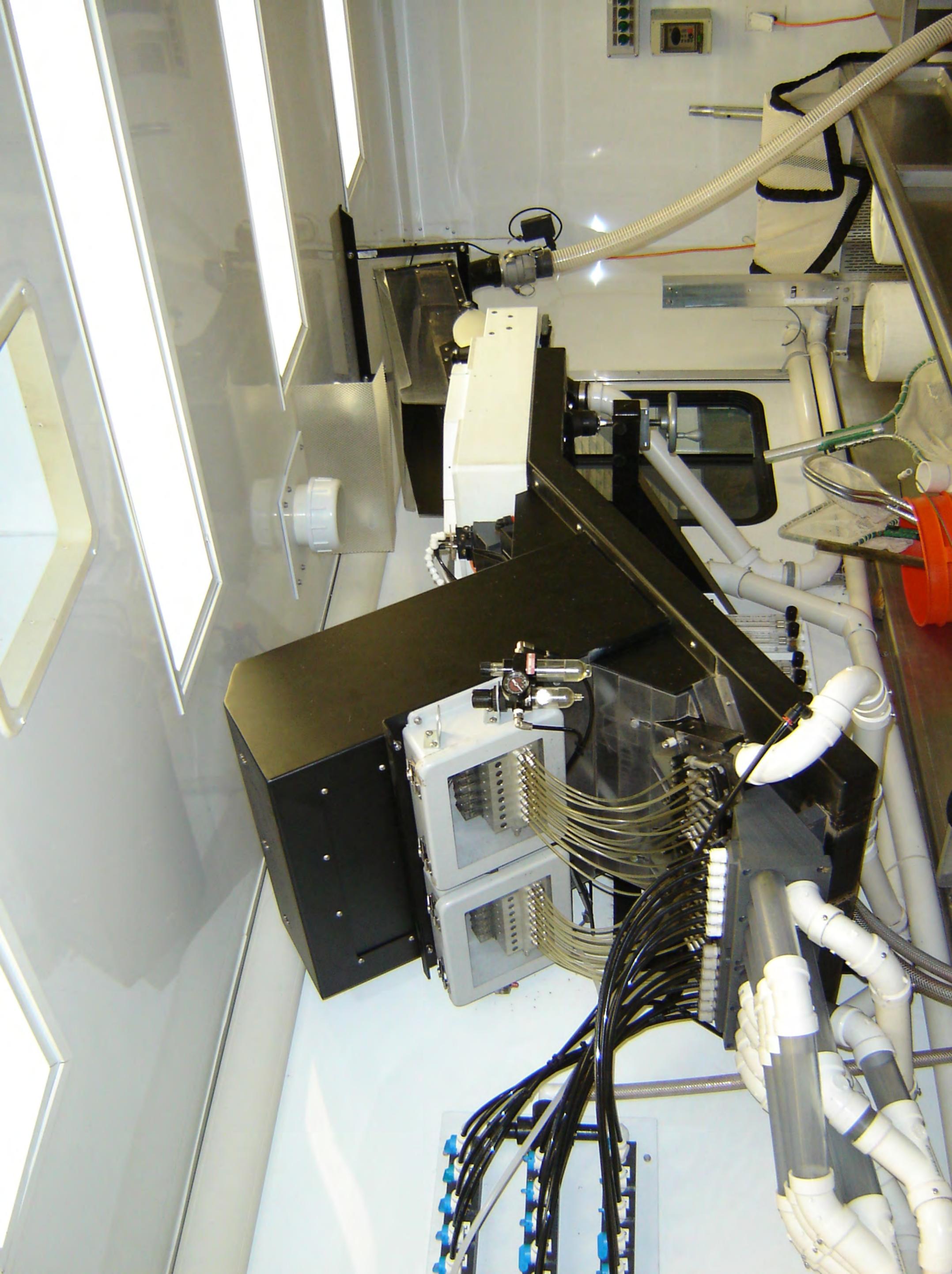
To be completed by Watershed Manger, Hatchery Coordinator, Program Manager, or higher level manager.

- I concur with the statements above and the applicant has permission to request these funds.

Manger Name: Scott Patterson Title: Fish Propagation Prgm Manager  
Manager Signature:  Date: 3.28.2014

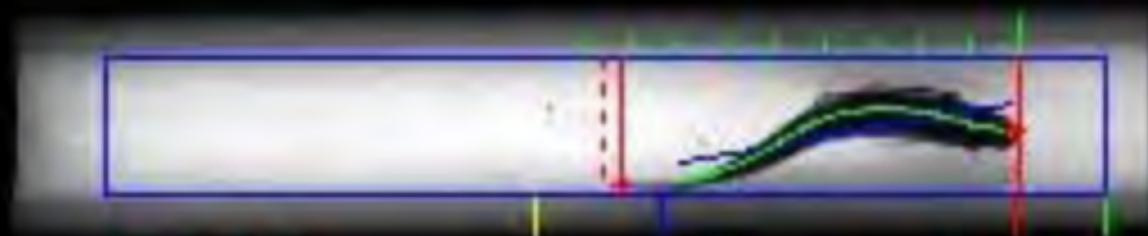






## Sorter Images

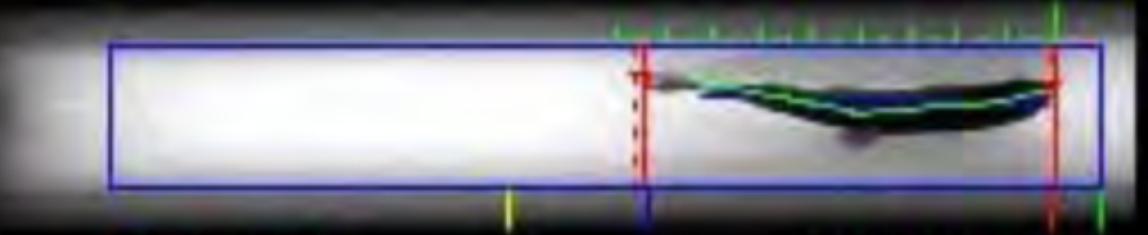
File 85



Port 8

Shape Error

File 86



Port 4

86.0 mm

## Sorter Images

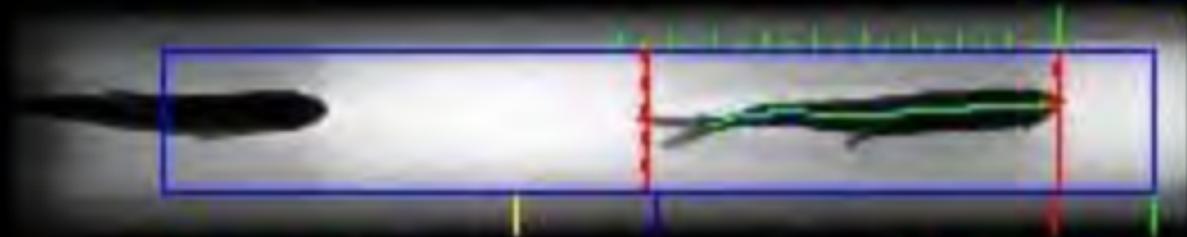
Fish 54



Port 3

80.9 mm

Fish 55



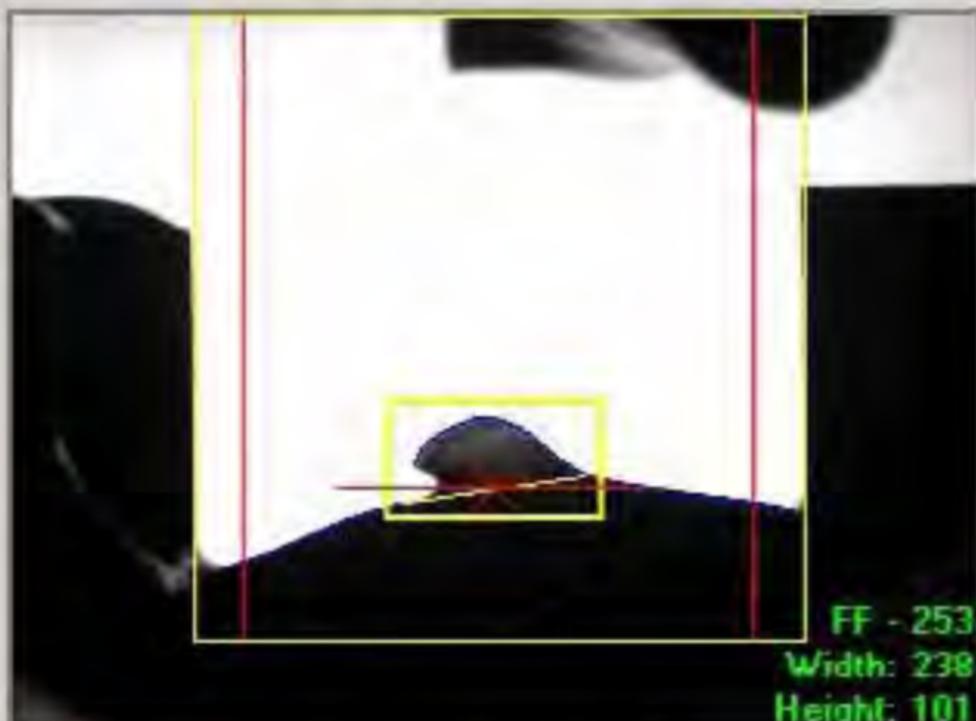
Port 8

Multiple

90/lb

Operating

Mark &amp; Tag



FF - 253

Width: 238

Height: 101



Cal

History

Norm

Align

Batch Stats

Errors

Total	2556	
Successful	2536	99 %
Tagged	2546	100 %
Find Fin Failures	6	0 %
Verify Mark Failures	4	0 %
Tag Failures	2	0 %
Paroles	8	0 %
Run Hours	1.7	1467 l/h

Last Error: Fish Paroled

Age: 22

Close

Start

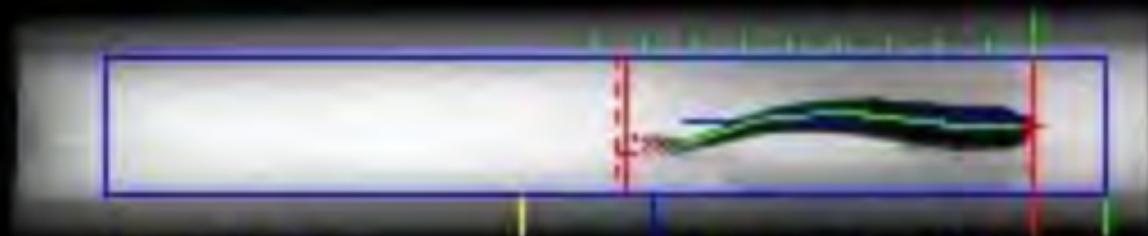
Stop

Config

Calibrate

# Sorter Images

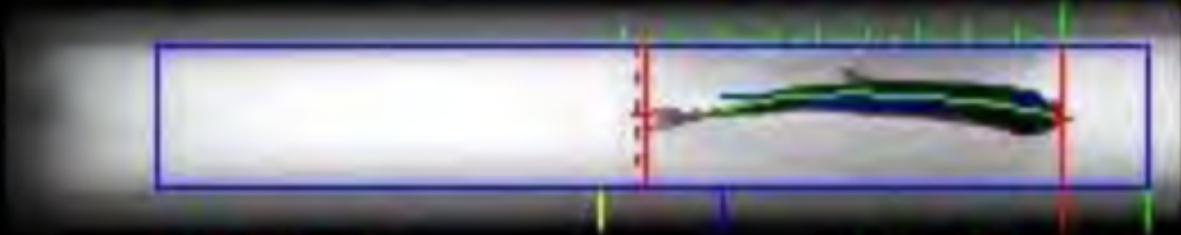
Frame 51



Port 5

Unsafe Hold

Frame 52

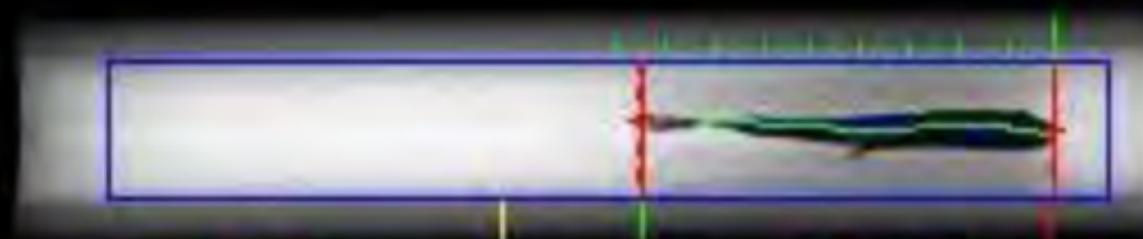


Port 4

86.8 mm

# Sorter Images

1-16-77



Port 4

85.1 mm

1-16-77



Port 5

87.6 mm