

## Appendix A Image impression datasets & class mappings

### SeaClear dataset

Image impression:



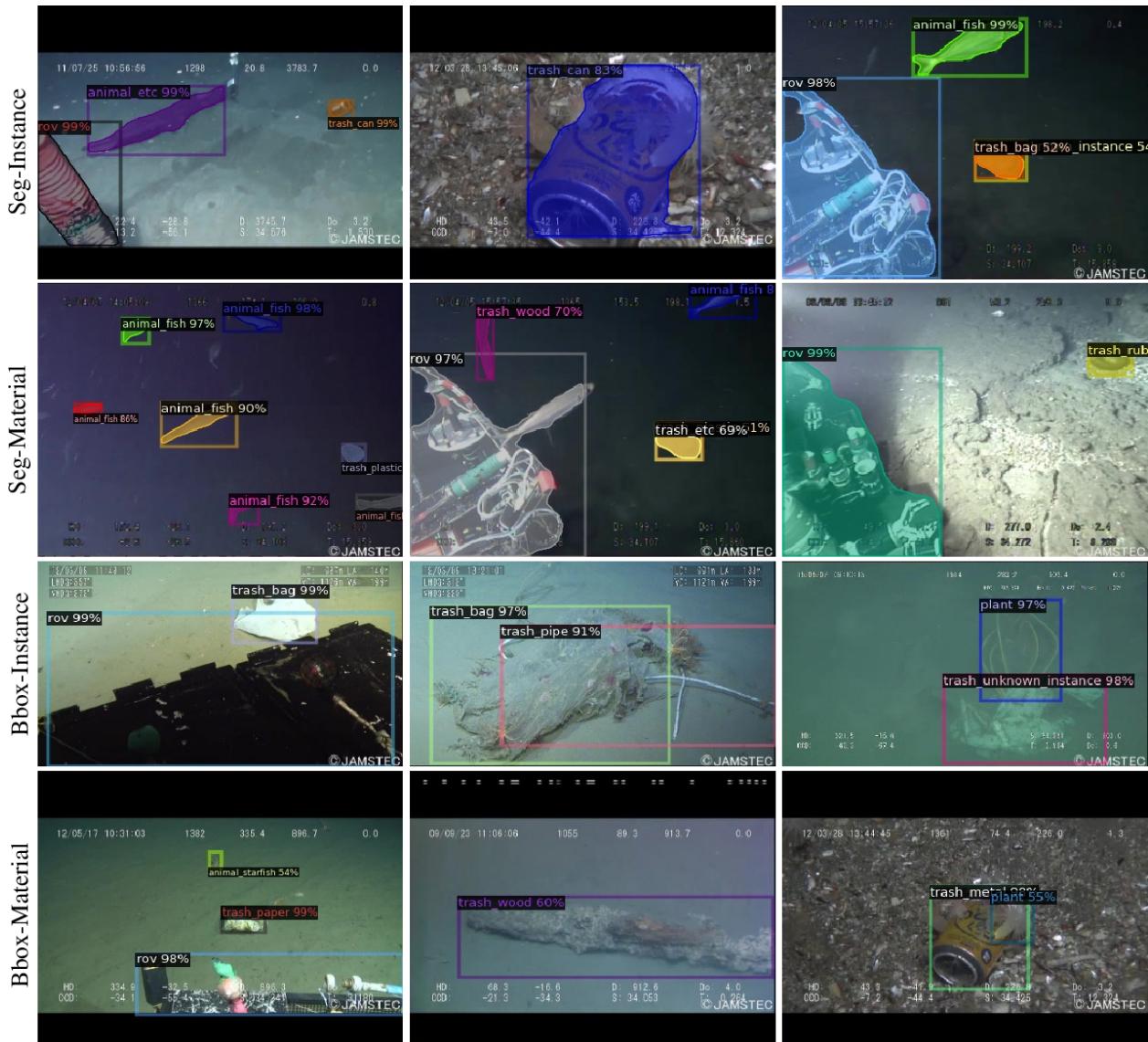
Class mapping:

```
remap_dict = {  
    'can_metal': 'trash',  
    'tarp_plastic': 'trash',  
    'container_plastic': 'trash',  
    'bottle_plastic': 'trash',  
    'tube_cement': 'trash',  
    'plant': 'plant',  
    'container_middle_size_metal': 'trash',  
    'animal/etc': 'animal',  
    'animal/sponge': 'animal',  
    'bottle/glass': 'trash',  
    'wreckage/metal': 'trash',  
    'unknown_instance': 'trash',  
    'pipe/plastic': 'trash',  
    'net/plastic': 'trash',  
    'animal/shells': 'animal',  
    'rope/fiber': 'trash',  
    'animal/urchin': 'animal',  
    'cup/plastic': 'trash',  
    'brick/clay': 'trash',  
    'bag/plastic': 'trash',  
    'sanitarries/plastic': 'trash',  
    'clothing/fiber': 'trash',  
    'cup/ceramic': 'trash',  
    'boot/rubber': 'trash',  
    'tire/rubber': 'trash',  
    'jar/glass': 'trash',  
    'rov/cable': 'rov',  
    'rov/tortuga': 'rov',  
    'branch/wood': 'trash',  
    'furniture/wood': 'trash',  
    'snack(wrapper)/plastic': 'trash',  
}
```

```
'lid_plastic':'trash',
'cardboard_paper':'trash',
'rope_plastic':'trash',
'cable_metal':'trash',
'animal_fish':'animal',
'snack_wrapper_paper':'trash',
'rov_vehicle_leg':'rov',
'rov_bluerov':'rov',
'animal_starfish':'animal'
}
# Setting 'unknown_instance':'trash',
might be suboptimal
```

## TrashCan dataset

Image impression:



Class mapping:

```
remap_dict = {
    'rov': 'rov',
    'plant': 'plant',
    'animal_fish': 'animal',
    'animal_starfish': 'animal',
    'animal_shells': 'animal',
    'animal_crab': 'animal',
    'animal_eel': 'animal',
    'animal_etc': 'animal',
    'trash_clothing': 'trash',
    'trash_pipe': 'trash',
    'trash_bottle': 'trash',
    'trash_bag': 'trash',
    'trash_snack_wrapper': 'trash',
```

```
'trash_can':'trash',
'trash_cup':'trash',
'trash_container':'trash',
'trash_unknown_instance':'trash',
'trash_branch':'trash',
'trash_wreckage':'trash',
'trash_tarp':'trash',
'trash_rope':'trash',
'trash_net':'trash'
}
```

## ImageNet-1K dataset (selected underwater classes)

Image impression:



Class mapping:

```
remap_dict = {
    'n01440764': 2, # tench
    'n01443537': 2, # goldfish
    'n01484850': 2, # greatwhiteshark
    'n01491361': 2, # tigershark
    'n01494475': 2, # hammerhead
    'n01496331': 2, # electricray
    'n01498041': 2, # stingray
    'n01632777': 2, # axolotl
    'n01641577': 2, # bullfrog
    'n01664065': 2, # loggerhead
    'n01665541': 2, # leatherbackturtle
    'n01667114': 2, # mudturtle
    'n01667778': 2, # terrapin
    'n01669191': 2, # boxturtle
    'n01697457': 2, # Africancrocodile
    'n01698640': 2, # Americanalligator
    'n01737021': 2, # watersnake
    'n01751748': 2, # seasnake
    'n01873310': 2, # platypus
    'n01910747': 2, # jellyfish
    'n01914609': 1, # seaanemone
    'n01917289': 1, # braincoral
    'n01924916': 2, # flatworm
    'n01943899': 2, # conch
    'n01950731': 2, # seaslug
    'n01968897': 2, # chamberednautilus
    'n01978287': 2, # Dungenesscrab
    'n01978455': 2, # rockcrab
    'n01980166': 2, # fiddlercrab
    'n01981276': 2, # kingcrab
    'n01983481': 2, # Americanlobster
    'n01984695': 2, # spinylobster
    'n01985128': 2, # crayfish
```

```

'n01986214': 2, # hermitcrab
'n02066245': 2, # greywhale
'n02071294': 2, # killerwhale
'n02074367': 2, # dugong
'n02077923': 2, # sealion
'n02317335': 2, # starfish
'n02319095': 2, # seaurchin
'n02321529': 2, # seacucumber
'n02444819': 2, # otter
'n02514041': 2, # barracouta
'n02526121': 2, # eel
'n02536864': 2, # coho
'n02606052': 2, # rockbeauty
'n02607072': 2, # anemonefish
'n02640242': 2, # sturgeon
'n02641379': 2, # gar
'n02643566': 2, # lionfish
'n02655020': 2, # puffer
'n02823428': 3, # beerbottle
'n02877765': 3, # bottlecap
'n03958227': 3, # plasticbag
'n03983396': 3, # popbottle
'n04557648': 3, # waterbottle
'n09256479': 1, # coralreef
'n10565667': 2, # scubadiver
}
# I use the following mapping :
{'rov': '0', 'plant': '1',
'animal': '2', 'trash': '3'}
# Here I set corals en alike
(that look like plants but are
acutally animals) as plants/1

```

## RUOD dataset

Image impression:



(a) haze-like effects (absorbing and scattering, movement, and electronic noisy)



(b) color casts (yellowness, greenish, and bluish)



(c) light interference (artificial light, uneven illumination, sunshine)



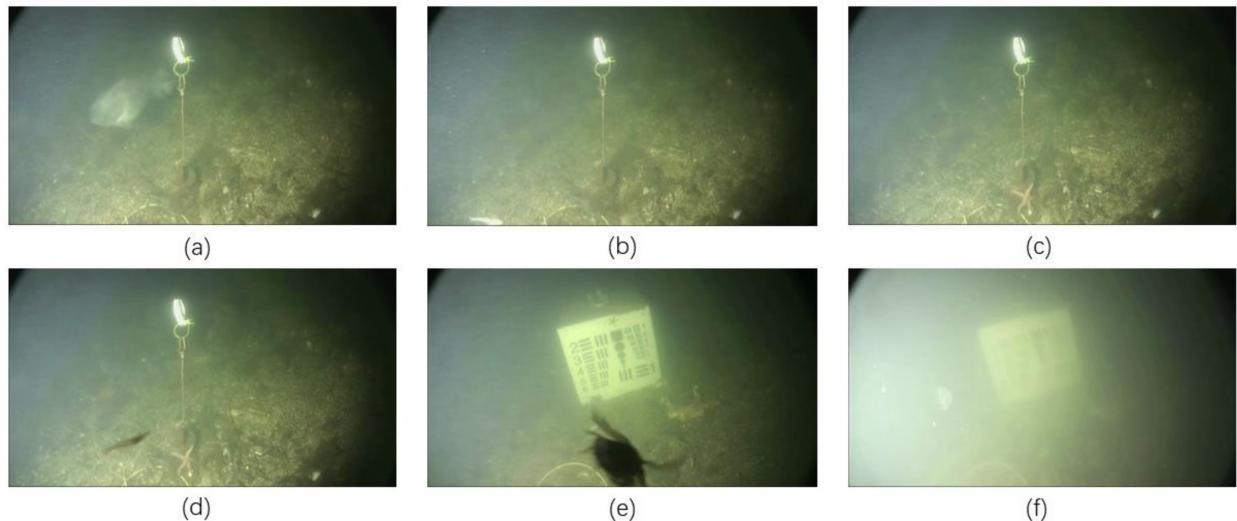
(d) complex marine objects (occlusion, small size, deformation, camouflage)

Class mapping:

```
remap_dict = {
    "holothurian": "animal",
    "echinus": "animal",
    "scallop": "animal",
    "starfish": "animal",
    "fish": "animal",
    "corals": "animal",
    "diver": "animal",
    "cuttlefish": "animal",
    "turtle": "animal",
    "jellyfish": "animal"
}
```

## Brackish dataset

Image impression:



Class mapping:

```
remap_dict = {  
    'crab': 'animal',  
    'fish': 'animal',  
    'jellyfish': 'animal',  
    'shrimp': 'animal',  
    'small_fish': 'animal',  
    'starfish': 'animal'  
}
```

## Appendix B Effect artifacts on performance

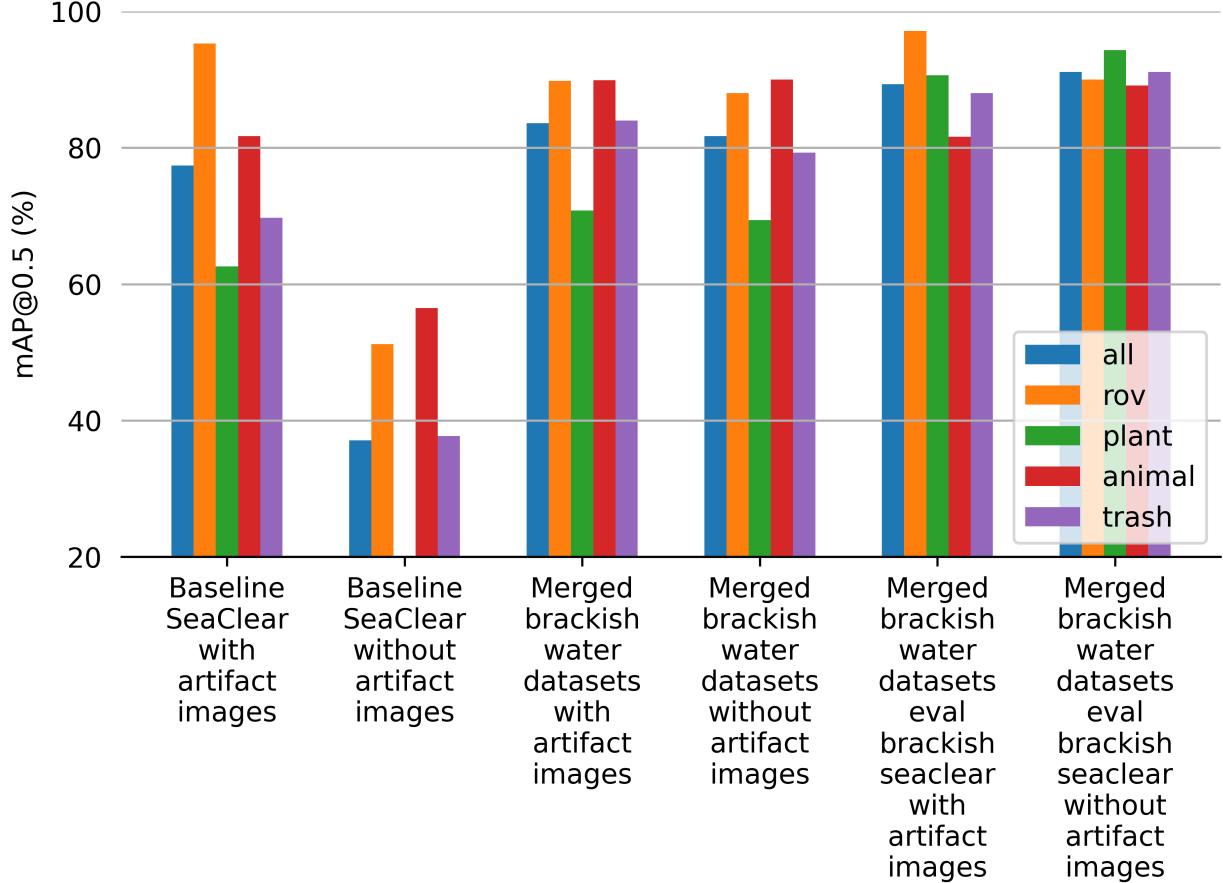


Figure 10: Effect the dirty lens artifacts on model performance.

Figure 10 shows the effect of the lens artifacts discovered in the SeaClear dataset. The results show that removing the artifact images causes a steep decline in performance for the baseline of SeaClear. This can be attributed to the fact that the artifact images comprise 3441 out of the total 8610 images and that the addition of this amount of training images outweighs the effect of the artifact. For the merged brackish water datasets, either evaluated on all datasets or only the brackish portion of the SeaClear dataset, the effect of removing the artifacts is small. This can be attributed to the large dataset on which the model has been trained, causing the removal of the artifact images to have a negligible effect on the performance.

## Appendix C Inference examples

Inference video examples can be found here:

[https://drive.google.com/drive/folders/1Z0ShnJvHNJICsheYkxxQcs\\_nn0\\_0\\_JnJ?usp=sharing](https://drive.google.com/drive/folders/1Z0ShnJvHNJICsheYkxxQcs_nn0_0_JnJ?usp=sharing)

## Appendix D Evaluation Results

```
Evaluation Name: yolov6n_eval_exp1_baseline_TrashCan
```

```
Evaluation metrics:
```

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1149	2420	0.675	0.61	0.641	0.702	0.474
rov	436	589	0.879	0.84	0.859	0.919	0.753
plant	98	102	0.807	0.45	0.578	0.529	0.293
animal	304	523	0.625	0.55	0.585	0.559	0.304
trash	940	1206	0.881	0.71	0.786	0.799	0.544

```
Evaluating speed.
```

```
Average pre-process time: 1.96 ms
```

```
Average inference time: 167.26 ms
```

```
Average NMS time: 1.02 ms
```

```
Evaluation Name: yolov6n_eval_exp1_baseline1_replicate_OpenCV
```

```
Evaluation metrics:
```

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.727	0.57	0.639	0.687	0.462
rov	524	683	0.825	0.87	0.847	0.896	0.732
plant	93	102	0.895	0.5	0.642	0.598	0.335
animal	403	667	0.589	0.47	0.523	0.5	0.272
trash	1194	1536	0.749	0.72	0.734	0.757	0.507

```
Evaluating speed.
```

```
Average pre-process time: 2.11 ms
```

```
Average inference time: 188.07 ms
```

```
Average NMS time: 1.89 ms
```

Evaluation Name: Eval\_Results\_exp1\_baseline2\_SeaClear

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1724	7193	0.846	0.62	0.716	0.774	0.559
rov	237	306	0.927	0.91	0.918	0.953	0.772
plant	59	61	1	0.5	0.667	0.626	0.467
animal	611	2983	0.824	0.72	0.768	0.817	0.516
trash	1450	3843	0.747	0.63	0.683	0.697	0.479

Evaluating speed.

Average pre-process time: 3.36 ms

Average inference time: 267.12 ms

Average NMS time: 6.23 ms

Evaluation Name: Eval\_Results\_exp1\_baseline3\_Cam1

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1035	6485	0.43	0.47	0.449	0.371	0.214
rov	149	215	0.66	0.47	0.549	0.512	0.297
plant	59	61	0.125	0.13	0.127	0.0305	0.0115
animal	611	2983	0.672	0.5	0.573	0.565	0.329
trash	849	3226	0.506	0.37	0.427	0.377	0.217

Evaluating speed.

Average pre-process time: 2.84 ms

Average inference time: 247.47 ms

Average NMS time: 12.20 ms

Evaluation Name: yolov6n\_eval\_exp1\_crossdataset1

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	7083	12127	0.104	0.21	0.139	0.0635	0.0344
rov	2721	3316	0.124	0.12	0.122	0.0575	0.0309
plant	482	507	0.0151	0.11	0.0265	0.00461	0.00123
animal	1476	2298	0.00497	0.09	0.00941	0.0021	0.00084
trash	5062	6006	0.274	0.3	0.286	0.19	0.105

Evaluating speed.

Average pre-process time: 2.33 ms

Average inference time: 199.56 ms

Average NMS time: 5.81 ms

Evaluation Name: yolov6n\_eval\_exp1\_crossdataset2

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	8610	31549	0.221	0.41	0.287	0.175	0.135
rov	807	963	0.656	0.6	0.627	0.585	0.477
plant	418	472	0.0176	0.18	0.0321	0.00651	0.00271
animal	3368	13318	0.0277	0.04	0.0327	0.0057	0.00243
trash	7728	16796	0.187	0.18	0.183	0.101	0.0571

Evaluating speed.

Average pre-process time: 2.13 ms  
Average inference time: 191.43 ms  
Average NMS time: 5.41 ms

Evaluation Name: yolov6n\_eval\_exp1\_Merged\_TrashCan SeaClear

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	3164	4999	0.666	0.49	0.564	0.602	0.416
rov	612	774	0.862	0.82	0.84	0.903	0.745
plant	93	102	0.803	0.48	0.601	0.55	0.314
animal	403	667	0.531	0.41	0.463	0.398	0.224
trash	2828	3456	0.594	0.49	0.537	0.557	0.382

Evaluating speed.

Average pre-process time: 0.12 ms  
Average inference time: 2.76 ms  
Average NMS time: 1.38 ms

Evaluation Name: yolov6n\_eval\_exp2\_ImageNet

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	2900	4882	0.583	0.61	0.596	0.623	0.479
rov	0	0	-1	0.99	198	nan	nan
plant	150	295	0.643	0.37	0.47	0.445	0.366
animal	2500	3831	0.874	0.66	0.752	0.774	0.585
trash	250	756	0.771	0.53	0.628	0.65	0.487

Evaluating speed.

Average pre-process time: 2.22 ms  
Average inference time: 261.00 ms  
Average NMS time: 1.17 ms

Evaluation Name: yolov6\_eval\_exp2\_ImageNet\_TrashCan

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.795	0.54	0.643	0.7	0.478
rov	524	683	0.842	0.82	0.831	0.888	0.732
plant	93	102	0.864	0.5	0.634	0.613	0.371
animal	403	667	0.574	0.5	0.534	0.523	0.286
trash	1194	1536	0.837	0.69	0.756	0.775	0.525

Evaluating speed.

Average pre-process time: 2.96 ms  
Average inference time: 264.58 ms  
Average NMS time: 1.85 ms

Evaluation Name: yolov6\_eval\_exp2\_ImageNet\_SeaClear

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1722	2011	0.65	0.68	0.665	0.711	0.549
rov	88	91	0.863	0.9	0.881	0.928	0.759
plant	0	0	-1	0.99	198	nan	nan
animal	0	0	-1	0.99	198	nan	nan
trash	1634	1920	0.428	0.53	0.474	0.493	0.338

Evaluating speed.

Average pre-process time: 3.93 ms  
Average inference time: 263.47 ms  
Average NMS time: 1.38 ms

Evaluation Name: yolov6n\_eval\_exp2\_ImageNet\_Merged\_TrashCan\_SeaClear

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	3164	4999	0.719	0.51	0.597	0.628	0.423
rov	612	774	0.851	0.79	0.819	0.866	0.709
plant	93	102	0.847	0.49	0.621	0.569	0.327
animal	403	667	0.597	0.46	0.52	0.492	0.27
trash	2828	3456	0.609	0.53	0.567	0.584	0.384

Evaluating speed.

Average pre-process time: 1.97 ms  
Average inference time: 214.74 ms  
Average NMS time: 1.61 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	672	3767	0.88	0.77	0.821	0.856	0.606
rov	27	31	0.923	0.77	0.84	0.88	0.717
plant	63	64	1	0.81	0.895	0.884	0.577
animal	576	2154	0.763	0.77	0.767	0.822	0.508
trash	557	1518	0.849	0.76	0.802	0.838	0.622

Evaluating speed.

Average pre-process time: 1.91 ms  
Average inference time: 166.75 ms  
Average NMS time: 3.69 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_Brackish.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	2477	7047	0.953	0.91	0.931	0.943	0.672
rov	0	0	-1	0.99	198	nan	nan
plant	0	0	-1	0.99	198	nan	nan
animal	2477	7047	0.953	0.91	0.931	0.943	0.672
trash	0	0	-1	0.99	198	nan	nan

Evaluating speed.

Average pre-process time: 1.33 ms  
Average inference time: 174.65 ms  
Average NMS time: 0.73 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.706	0.55	0.618	0.671	0.456
rov	524	683	0.894	0.76	0.821	0.882	0.727
plant	93	102	0.773	0.5	0.607	0.561	0.328
animal	403	667	0.59	0.46	0.517	0.497	0.272
trash	1194	1536	0.823	0.66	0.733	0.745	0.499

Evaluating speed.

Average pre-process time: 1.90 ms  
Average inference time: 183.26 ms  
Average NMS time: 1.93 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4591	13802	0.852	0.68	0.756	0.817	0.582
rov	551	714	0.827	0.82	0.823	0.88	0.725
plant	156	166	0.933	0.59	0.723	0.694	0.423
animal	3456	9868	0.904	0.84	0.871	0.9	0.617
trash	1751	3054	0.849	0.7	0.768	0.793	0.562

Evaluating speed.

Average pre-process time: 1.65 ms  
Average inference time: 175.22 ms  
Average NMS time: 1.46 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_Cam1\_yolov6\_eval\_exp3\_Bistrina\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1412	4673	0.891	0.81	0.849	0.893	0.661
rov	58	62	0.918	0.9	0.909	0.971	0.85
plant	63	64	0.949	0.87	0.908	0.906	0.609
animal	576	2154	0.778	0.76	0.769	0.816	0.506
trash	1266	2393	0.919	0.81	0.861	0.88	0.679

Evaluating speed.

Average pre-process time: 1.49 ms  
Average inference time: 209.93 ms  
Average NMS time: 2.55 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	5331	14708	0.863	0.69	0.767	0.836	0.607
rov	582	745	0.842	0.84	0.841	0.898	0.747
plant	156	166	0.919	0.61	0.733	0.708	0.448
animal	3456	9868	0.905	0.84	0.871	0.899	0.617
trash	2460	3929	0.883	0.76	0.817	0.84	0.617

Evaluating speed.

Average pre-process time: 2.11 ms  
Average inference time: 221.75 ms  
Average NMS time: 1.67 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear\_yolov6\_eval\_exp3\_SeaClear\_Cam1\_goodplit.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1724	7193	0.708	0.68	0.694	0.749	0.507
rov	237	306	0.98	0.81	0.887	0.934	0.727
plant	59	61	0.906	0.47	0.619	0.643	0.378
animal	611	2983	0.82	0.67	0.738	0.774	0.484
trash	1450	3843	0.717	0.58	0.641	0.646	0.438

Evaluating speed.

Average pre-process time: 1.69 ms  
Average inference time: 193.86 ms  
Average NMS time: 5.74 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	8441	29871	0.674	0.67	0.672	0.722	0.511
rov	612	774	0.873	0.77	0.818	0.869	0.698
plant	491	1801	0.73	0.58	0.647	0.654	0.452
animal	5633	23840	0.863	0.75	0.803	0.832	0.528
trash	2828	3456	0.584	0.5	0.539	0.532	0.366

Evaluating speed.

Average pre-process time: 1.40 ms  
Average inference time: 192.54 ms  
Average NMS time: 2.84 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	311	1298	0.613	0.62	0.616	0.669	0.436
rov	118	147	0.965	0.94	0.952	0.98	0.873
plant	31	37	0.64	0.43	0.514	0.476	0.243
animal	32	195	0.649	0.49	0.558	0.541	0.228
trash	287	919	0.738	0.63	0.68	0.679	0.399

Evaluating speed.

Average pre-process time: 7.01 ms  
Average inference time: 547.72 ms  
Average NMS time: 17.80 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_RUOD.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	2800	17825	0.739	0.67	0.703	0.733	0.482
rov	0	0	-1	0.99	198	nan	nan
plant	398	1699	0.74	0.58	0.65	0.666	0.466
animal	2753	16126	0.841	0.71	0.77	0.8	0.498
trash	0	0	-1	0.99	198	nan	nan

Evaluating speed.

Average pre-process time: 6.51 ms  
Average inference time: 1211.40 ms  
Average NMS time: 18.74 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.727	0.48	0.578	0.635	0.428
rov	524	683	0.794	0.81	0.802	0.862	0.706
plant	93	102	0.933	0.41	0.57	0.523	0.293
animal	403	667	0.6	0.43	0.501	0.444	0.248
trash	1194	1536	0.778	0.63	0.696	0.71	0.466

Evaluating speed.

Average pre-process time: 5.36 ms  
Average inference time: 551.44 ms  
Average NMS time: 11.23 ms

Evaluation Name: Eval\_Results\_exp3\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.755	0.67	0.71	0.756	0.53
rov	642	830	0.827	0.83	0.829	0.889	0.743
plant	522	1838	0.709	0.59	0.644	0.653	0.453
animal	3188	16988	0.839	0.69	0.757	0.784	0.486
trash	1481	2455	0.753	0.63	0.686	0.696	0.44

Evaluating speed.

Average pre-process time: 5.36 ms  
Average inference time: 551.44 ms  
Average NMS time: 11.23 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	672	3767	0.897	0.86	0.878	0.911	0.682
rov	27	31	0.848	0.9	0.873	0.9	0.768
plant	63	64	0.968	0.93	0.948	0.943	0.68
animal	576	2154	0.871	0.83	0.85	0.891	0.576
trash	557	1518	0.922	0.85	0.885	0.911	0.706

Evaluating speed.

Average pre-process time: 6.67 ms  
Average inference time: 1521.53 ms  
Average NMS time: 5.82 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_Brackish.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	2477	7047	0.968	0.94	0.954	0.97	0.747
rov	0	0	-1	0.99	198	nan	nan
plant	0	0	-1	0.99	198	nan	nan
animal	2477	7047	0.968	0.94	0.954	0.97	0.747
trash	0	0	-1	0.99	198	nan	nan

Evaluating speed.

Average pre-process time: 6.87 ms  
Average inference time: 1603.51 ms  
Average NMS time: 2.04 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov6\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.821	0.59	0.687	0.739	0.512
rov	524	683	0.947	0.78	0.855	0.904	0.767
plant	93	102	0.951	0.56	0.705	0.695	0.412
animal	403	667	0.612	0.54	0.574	0.551	0.312
trash	1194	1536	0.843	0.75	0.794	0.806	0.555

Evaluating speed.

Average pre-process time: 7.25 ms  
Average inference time: 1621.39 ms  
Average NMS time: 3.64 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4591	13802	0.909	0.75	0.822	0.875	0.651
rov	551	714	0.852	0.86	0.856	0.903	0.765
plant	156	166	0.91	0.72	0.804	0.805	0.52
animal	3456	9868	0.938	0.88	0.908	0.934	0.687
trash	1751	3054	0.896	0.79	0.84	0.86	0.632

Evaluating speed.

Average pre-process time: 1.89 ms  
Average inference time: 559.59 ms  
Average NMS time: 1.15 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_Cam1\_yolov6\_eval\_exp3\_Bistrina\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1412	4673	0.929	0.87	0.899	0.939	0.715
rov	58	62	0.922	0.95	0.936	0.975	0.867
plant	63	64	0.952	0.93	0.941	0.968	0.681
animal	576	2154	0.882	0.83	0.855	0.89	0.576
trash	1266	2393	0.945	0.88	0.911	0.922	0.736

Evaluating speed.

Average pre-process time: 1.90 ms  
Average inference time: 575.45 ms  
Average NMS time: 1.38 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	5331	14708	0.851	0.78	0.814	0.874	0.662
rov	582	745	0.862	0.88	0.871	0.915	0.781
plant	156	166	0.981	0.63	0.767	0.768	0.507
animal	3456	9868	0.932	0.89	0.911	0.936	0.689
trash	2460	3929	0.916	0.82	0.865	0.879	0.67

Evaluating speed.

Average pre-process time: 2.20 ms  
Average inference time: 673.31 ms  
Average NMS time: 1.17 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear\_yolov6\_eval\_exp3\_SeaClear\_Cam1\_goodplit.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1724	7193	0.868	0.76	0.811	0.854	0.634
rov	237	306	0.958	0.82	0.884	0.877	0.76
plant	59	61	0.9	0.88	0.89	0.899	0.65
animal	611	2983	0.883	0.79	0.834	0.879	0.581
trash	1450	3843	0.847	0.69	0.761	0.763	0.545

Evaluating speed.

Average pre-process time: 1.21 ms  
Average inference time: 554.33 ms  
Average NMS time: 2.49 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	8441	29871	0.648	0.71	0.678	0.737	0.545
rov	612	774	0.887	0.77	0.824	0.849	0.718
plant	491	1801	0.733	0.64	0.683	0.702	0.509
animal	5633	23840	0.898	0.8	0.846	0.88	0.593
trash	2828	3456	0.646	0.49	0.557	0.517	0.359

Evaluating speed.

Average pre-process time: 2.54 ms  
Average inference time: 741.53 ms  
Average NMS time: 1.98 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	311	1298	0.812	0.67	0.734	0.793	0.543
rov	118	147	1	0.96	0.98	0.986	0.915
plant	31	37	0.889	0.64	0.744	0.736	0.441
animal	32	195	0.809	0.56	0.662	0.669	0.319
trash	287	919	0.792	0.73	0.76	0.783	0.498

Evaluating speed.

Average pre-process time: 7.09 ms  
Average inference time: 1590.85 ms  
Average NMS time: 7.48 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_RUOD.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	2800	17825	0.756	0.72	0.737	0.775	0.532
rov	0	0	-1	0.99	198	nan	nan
plant	398	1699	0.723	0.65	0.685	0.704	0.514
animal	2753	16126	0.859	0.76	0.806	0.846	0.55
trash	0	0	-1	0.99	198	nan	nan

Evaluating speed.

Average pre-process time: 7.44 ms  
Average inference time: 1779.00 ms  
Average NMS time: 8.92 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov6\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	1442	2988	0.733	0.58	0.648	0.702	0.491
rov	524	683	0.878	0.84	0.858	0.9	0.763
plant	93	102	0.943	0.49	0.645	0.57	0.353
animal	403	667	0.682	0.54	0.603	0.567	0.321
trash	1194	1536	0.777	0.74	0.758	0.77	0.529

Evaluating speed.

Average pre-process time: 7.16 ms

Average inference time: 1605.85 ms

Average NMS time: 4.60 ms

Evaluation Name: Eval\_Results\_exp3\_v6s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Evaluating speed.

Average pre-process time: 2.21 ms

Average inference time: 683.25 ms

Average NMS time: 2.96 ms

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 323.0/1.3/324.3 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Brackish.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 786.5/2.8/789.3 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 1303.0/1.6/1304.6 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 299.8/0.9/300.7 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear\_yolov7\_eval\_exp3\_SeaClear\_Cam1\_goodplit.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 249.8/0.9/250.7 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 285.6/0.9/286.5 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 348.2/1.9/350.1 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_RUOD.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 304.6/1.3/305.9 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 275.1/0.8/275.9 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v7t\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 380.1/1.4/381.5 ms inference/NMS/total per 640x640 image at batch-size 32

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.0ms preprocess, 151.5ms inference, 0.0ms loss, 1.1ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Brackish.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.0ms preprocess, 150.0ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.2ms preprocess, 159.5ms inference, 0.0ms loss, 0.9ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.3ms preprocess, 187.1ms inference, 0.0ms loss, 1.1ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear\_yolov7\_eval\_exp3\_SeaClear\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 1.8ms preprocess, 144.7ms inference, 0.0ms loss, 1.0ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.0ms preprocess, 159.7ms inference, 0.0ms loss, 0.9ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.2ms preprocess, 170.2ms inference, 0.0ms loss, 1.2ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_RUOD.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.6ms preprocess, 176.9ms inference, 0.0ms loss, 1.3ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.5ms preprocess, 524.5ms inference, 0.0ms loss, 1.0ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8n\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.3ms preprocess, 166.7ms inference, 0.0ms loss, 1.2ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.2ms preprocess, 478.5ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_Brackish.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.4ms preprocess, 1129.7ms inference, 0.0ms loss, 1.0ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.3ms preprocess, 452.6ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_Brackish\_TrashCan\_SeaClear\_Bistrina.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.3ms preprocess, 559.7ms inference, 0.0ms loss, 0.9ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear\_yolov7\_eval\_exp3\_SeaClear\_Cam1.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 1.8ms preprocess, 415.4ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_Brackish\_TrashCan\_SeaClear.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.2ms preprocess, 468.9ms inference, 0.0ms loss, 0.9ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.0ms preprocess, 390.6ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_RUOD.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.8ms preprocess, 552.9ms inference, 0.0ms loss, 1.1ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum\_yolov7\_eval\_exp3\_TrashCan.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.0ms preprocess, 413.9ms inference, 0.0ms loss, 0.8ms postprocess per image

Evaluation Name: Eval\_Results\_exp3\_v8s\_Merged\_RUOD\_TrashCan\_SeaClear\_Lokrum.txt

Evaluation metrics:

Class	Labeled_images	Labels	P@.5iou	R@.5iou	F1@.5iou	mAP@.5	mAP@.5:.95
all	4553	22111	0.79	0.73	0.759	0.805	0.588
rov	642	830	0.896	0.86	0.878	0.919	0.796
plant	522	1838	0.724	0.64	0.68	0.696	0.501
animal	3188	16988	0.85	0.75	0.797	0.834	0.539
trash	1481	2455	0.796	0.72	0.756	0.772	0.515

Speed: 2.5ms preprocess, 502.6ms inference, 0.0ms loss, 0.9ms postprocess per image