MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION
JOB PROGRESS REPORT

STATE: **Montana** **PROJECT TITLE:** **Statewide Fisheries Investigations**

PROJECT NO.: **F-78-R-2** **STUDY TITLE:** **Survey and Inventory of Warmwater Streams**

STUDY NO.: **III** **JOB TITLE:** **Yellowstone River Paddlefish Spawning Study**

JOB NO.: **E**

Period Covered: **July 1, 1995 through June 30, 1996**

ABSTRACT

A study to determine the locations of paddlefish spawning sites and evaluate spawning success in the lower Yellowstone River was continued for the sixth year. Larval fish sampling with plankton nets collected a total of 44 paddlefish larvae. Fifty-five percent of the paddlefish larvae were collected during the June 29 sampling period. Larval paddlefish densities during the peak drift period were uneven and varied according to location, indicating that certain areas were sources for paddlefish larvae.

OBJECTIVES AND DEGREE OF ATTAINMENT

1. Locate paddlefish spawning areas. Efforts towards this objective were made and results are reported.

2. Evaluate paddlefish spawning success. Efforts towards this objective were accomplished and results are reported.

3. Determine effect of commercial roe harvest, if any, on the paddlefish population. This is discussed under the heading "Results and Discussion".

4. Report amount of roe harvested commercially. This is reported under the heading "Results and Discussion".

PROCEDURES

Larval fish sampling was used to evaluate paddlefish spawning success and locate spawning sites. Larval samples were obtained using boat mounted, round and D-shaped plankton net samplers. The round samplers consisted of a 6 foot long Nitex net (750 micron mesh) attached to a 20 inch diameter metal ring. Two nets were used in tandem so that duplicate samples could be taken simultaneously. The nets had a 3-rope harness that was fastened to and suspended off a weighted line attached to each side of the bow of the boat.

Samples were collected near the channel bottom while drifting slightly downstream. This allowed the nets to filter the water without addition of excess weights. Most of the sampling occurred in strong current areas of the river, at a depth range of 6-18 feet, and therefore power was provided by an outboard motor to decrease the downstream drift rate. The nets were positioned and weighted in the river usually for a duration of 6-15 minutes, depending on the amount of debris suspended in the river. The volume of water filtered was determined using General Oceanic flow meters (Model 2030) tied to the ring of the net and positioned at one-third of the net diameter.

In an effort to improve on the sampling efficiencies a different net configuration was tested and compared to the round plankton nets. This net consisted of a frame shaped in a "D" configuration, 29.5 inches wide and 21.3 inches high. The net length was 10 feet and consisted of 1/32 inch (800 micron) mesh. The surface area of the D-net opening was 3.67 ft^2 compared to 2.11 ft^2 for the round net. Only one D-net was sampled at a time off the stern of the boat due to the net length. The net was weighted with a 10 lb. weight at each bottom corner so the frame would rest on the channel bottom.

Larval samples were preserved with formalin in the field and later sorted in the laboratory. Retained larvae were identified to family using taxonomic keys by Auer (1982) and Wallus (1990). Mr. Darrel Snyder, director of the Colorado State University Larval Fish Laboratory, examined a sample of tentatively identified Polydon and Scaphirhynchus larvae to insure that these two taxonomically similar fish were correctly identified.

INTRODUCTION

Every year during the late spring paddlefish from Lake Sakakawea Reservoir migrate up the Yellowstone River to spawn. The Yellowstone contains one of five known natural paddlefish spawning areas within their geographical range (U.S. Fish and Wildlife Service, 1990). Although a few paddlefish larvae have been previously collected in the river (Penkal 1981), exact spawning sites and habitat preferences have not been determined.

In 1989 the Montana Legislature passed House Bill 289 which allows for the commercial sale of paddlefish eggs from paddlefish harvested only in the Yellowstone River at the Intake vicinity. The bill emphasized protection of the paddlefish population from overharvest. One of the methods of protection was to collect more information on spawning success and locate spawning sites so that effects of potential increased harvest of female paddlefish could be better evaluated.

DESCRIPTION OF STUDY AREA

The study area consists of a 67-mile reach of the lower Yellowstone River in southeastern Montana, from Intake to the confluence with the Missouri River at Fort Buford, ND. The Yellowstone is one of the few remaining free-flowing rivers. The river is fairly large with a mean annual flow of 12,430 cfs (Koch et al. 1977). The headwaters of Lake Sakakawea Reservoir begin about 35 miles downriver of the confluence. Intake Diversion Dam is the only major diversion in the study area. This diversion is constructed of scattered boulders and spans the width of the river. The drop is approximately 4 feet in 100 feet and is characterized by very turbulent water (Graham and Penkal, 1978). The diversion acts as a partial barrier for upstream travel to most fish species.

Sixteen sampling stations were established at 8 sites on the lower Yellowstone in the study area (Figure 1 and Table 1). The distances between successive sampling sites were 6.7, 2.0, 2.3, 1.2, 2.5, 19.5 and 29 miles. Both the right (-R) and left (-L) side of the river channel were sampled at each of the 8 sites to evaluate whether drifting larvae orientated to a particular side.

Table 1. Locations of sampling stations in the Yellowstone River, 1995.

Station Number	Locality	Legal Description
RM - 2.3	Confluence	T152N R104W Sec 35
RM - 9.0	Fairview Hwy Bdg	T151N R104W Sec 26
RM - 11.0	Second Hay Cr.	T150N R104W Sec 3
RM - 13.3	Horse Cr.	T150N R104W Sec 16
RM - 15.0	Mid- Jettie	T150N R104W Sec 20
RM - 18.5	Ridgelawn	T23N R60E Sec 6
RM - 38.0	7-Sisters	T21N R59E Sec 12
RM - 67.0	Intake	T18N R57E Sec 16

Figure 1. Map of study Area

RESULTS AND DISCUSSION

The Yellowstone River experienced above normal run-off during the 1995 paddlefish spawning season. The average monthly flows for May, June and July, 1995 were 123, 104 and 153% of average (USGS 1996 and Koch et al. 1977). The peak flow of 56,600 cfs occurred on June 19 and was about normal for spring peak flows in the Yellowstone. A second peak of 54,100 cfs occurred 8 days earlier on June 11. Temperature data from the Yellowstone River thermograph station at RM-9.0 during the paddlefish spawning season is given in Appendix C.

Paddlefish Spawning Success and Spawning Locations

From previous years' information it was determined that a 20-mile reach near the Fairview Bridge area had particularly greater densities of paddlefish larvae in the drift samples than other areas. Therefore, the sampling effort continued to be directed in this reach so that specific spawning sites could be located.

Larval fish were sampled in the Yellowstone River from late May through mid-July, 1995, to determine timing and location of paddlefish hatching and emergence.
A volume of 403,380 ft^3 of water was filtered for both net types combined. Physical parameters and sampling effort for each station are presented in Appendix A and B. A total of 555 larvae were collected in 257 samples representing 7 taxonomic families (Tables 2 and 3). Goldeye was the most common larval fish group sampled, comprising 59% of all the larvae collected. Average total larval densities ranged from a low of 0 for the "D"-net samples at station RM-67 to a high of 25.2 larvae/10,000 ft^3 for the round net samples at station RM-9.0 .

The paddlefish spawning run during 1995 was thought to be considerably better than normal years. Stewart (1996) reported the 1995 paddlefish angler success rate at Intake was 0.39 fish/hr. which was the highest catch rate since 1982. Test gill netting at the Intake index station this year indicated that paddlefish numbers were high in the area, averaging 14.5 fish/net hr. compared to 10.4 and 4.9 fish/net hr. for 1993 and 1994. Paddlefish spawning migrations are generally influenced by the magnitude of the spring run-off (Russell 1986). During years with higher spring run-off conditions a greater number of spawners will migrate upriver to spawning locations. This was probably the case in the study area for 1995.

Table 2. Numbers of larval fish collected with the round plankton net in the Yellowstone River, 1995.

Station[1]	Paddlefish	Sturgeon	Goldeye	Sucker	Minnow	Sauger/We	Total # Larvae	Avg.[2] Density	Total# Samples
RM-2.3	10	2	28	24	8	1	73	18.7	30
RM-9.0	5	0	73	6	12	0	96	25.2	30
RM-11.0	3	2	32	17	4	0	58	13.0	34
RM-13.3	8	4	52	15	12	1	92	15.0	50
RM-15.0	3	1	38	9	14	0	65	14.4	30
RM-18.5	3	1	23	14	4	0	45	12.5	31
RM-38.0	1	0	4	1	2	0	8	5.9	8
RM-67.0	0	0	6	2	0	0	8	7.1	9

[1] Stations are labeled in river miles above the confluence.

[2] Density of larval fish expressed as number per 10,000 ft^3 of water filtered.

Table 3. Numbers of larval fish collected with the D-shape plankton net in the Yellowstone River, 1994.

Station[1]	Paddlefish	Sturgeon	Goldeye	Sucker	Minnow	Catfish	Sauger/We	Total # Larvae	Avg.[2] Density	Total# Samples
RM-2.3	1	0	7	1	3	0	1	13	7.9	5
RM-9.0	1	1	22	1	0	0	0	25	23.8	5
RM-11.0	1	0	7	3	2	0	0	13	7.1	6
RM-13.3	4	0	10	1	3	2	0	20	13.0	5
RM-15.0	0	0	12	3	1	0	0	16	11.6	5
RM-18.5	4	1	10	1	0	0	0	16	12.5	6

RM-38.0	0	0	6	1	0	0	0	7	11.0	2
RM-67.0	0	0	0	0	0	0	0	0	0	1

[1] Stations are labeled in river miles above the confluence.

[2] Density of larval fish expressed as number per 10,000 ft^3 of water filtered.

A total of 44 paddlefish larvae were sampled during 1995 (Tables 2-5). Paddlefish larvae were sampled at all stations except RM-67 and they comprised 6% of the total larvae collected.

From Tables 4 and 5 it is evident that paddlefish larvae were found in the Yellowstone River samples from the second sampling period, June 1, through June 29, however, 55% of the total were sampled during the June 29 sampling period. Highest larval paddlefish catches occurred within 10 days after the Yellowstone reached the spring run-off peak (June 19). Based on these observations and assuming a 7-10 day incubation period (Yeager and Wallus 1982 and Ballard and Needham 1964) it can be concluded that peak paddlefish spawning occurred during the period June 19-21.

Figure 2. depicts the longitudinal distribution of paddlefish larvae in a 20-mile reach of the study area. This reach is where nearly all of the larvae were sampled during previous years. Paddlefish larvae were not found uniformly throughout this reach but were found in higher concentrations at RM-13.3 and RM-2.3. The D-net catches during the peak drift period also corroborates this finding. The uneven density distribution may be the result of sampling proximity to egg deposition sites. More intensive sampling in this area is needed to locate paddlefish egg deposition sites.

Several of the locations where paddlefish larvae were successfully collected during 1994 were sites where paddlefish were also collected in 1995. Table 6 shows that this is not only consistent for location but also for a particular side of the channel at stations RM-18.5, RM-18.6, RM-9.0 and RM-2.3. Over 75% of all the paddlefish larvae collected within the 9½-mile reach between RM-9 to RM-18.5 during both years were taken on the left (west or north) side of the river (Table 4 and Gardner, 1994). Densities of paddlefish in this reach averaged 2.7 on the left side compared to 0.6 on the right side for 1994 and 1.5 and 0.3 for left and right sides for 1995. For the RM-2.3 station the highest densities of paddlefish larvae were sampled on the right (east) side of the river during both years. The reason for these observations is unknown at this time. However, this does demonstrate that these methods used for larval paddlefish sampling are effective and consistent.

Larval paddlefish densities at the RM-2.3 R (Confluence) index station for five years of sampling are shown in Table 7.

The 1995 density of 14.7 larvae/10,000 ft^3 is slightly less than that for 1994. Based on the catch rate of adult paddlefish sampled in the river and the excellent flow conditions during 1995, spawning and resulting paddlefish larvae numbers in the drift samples should have been much better in 1995 than for 1994. The reason the 1995 sampling results do not indicate higher numbers of larvae in the river compared to that sampled for 1994 is most likely because the Yellowstone River was about 1.7 times the flow in 1995 compared to the low water year of 1994. It is evident that river flow should be factored in along with larval densities for evaluating paddlefish spawning success. Perhaps once the sampling method is further improved and a better knowledge of larval paddlefish drift behavior is attained, results from larval paddlefish sampling can be more representative of the spawning success.

Table 4. Average densities (number/10,000 ft^3) and total number of paddlefish larvae sampled with round plankton nets in the Yellowstone River, 1995.

	Sampling Period							Total #	Number of
Station	May 25	Jun 1	Jun 7	Jun 14	Jun 21	Jun 29	Jul 12	Larvae	Samples
RM-2.3(L)	0	0	0	3.1	0	7.4	0	3	14
RM-2.3(R)	0	0	0	0	7.1	14.7	0	7	16
RM-9.0(L)	0	0	0	12.5	0	3.4	0	4	16
RM-9.0(R)	0	0	0	3.1	0	0	0	1	14
RM-11.0(L)	-	0	0	0	1.7	2.5	0	2	18
RM-11.0(R)	-	2.0	0	0	0	0	0	1	16
RM-13.3(L)	0	0	0	0	0.8	10.5	0	7	26
RM-13.3(R)	0	0	0	0	0.7	0	0	1	24
RM-15.0(L)	0	0	0	0	0	4.2	0	1	16
RM-15.0(R)	0	3.7	2.3	0	0	0	0	2	14
RM-18.5(L)	0	0	0	4.5	0	5.3	0	3	15
RM-18.5(R)	0	0	0	0	0	0	0	0	16
RM-38.0(L)	-	-	0	0	-	-	-	0	4

RM-38.0(R)	-	-	3.1	0	-	-	-	1	4
RM-67.0(L)	-	-	0	0	-	-	-	0	4
RM-67.0(R)	-	-	0	0	-	-	-	0	5
Total # Larvae	0	2	3	7	7	17	0	33	

Table 5. Average densities (number/10,000 ft^3) and total number of paddlefish larvae sampled with D-nets in the Yellowstone River, 1995.

	Sampling Period							Total #	Number of
Station	May 25	Jun 1	Jun 7	Jun 14	Jun 21	Jun 29	Jul 12	Larvae	Samples
RM-2.3	-	0	0	0	-	3.4	0	1	5
RM-9.0	-	0	0	0	-	4.2	0	1	5
RM-11.0	-	0	0	0	-	3.7	0	1	6
RM-13.3	-	4.0	3.1		-	7.9	0	4	5
RM-15.0	-	0	0	0	-	0	0	0	5
RM-18.5	0	5.9	0	0	-	13.9	0	4	6
RM-38.0	-	-	0	0	-	-	-	-	2
RM-67.0	-	-	-	0	-	-	-	-	1
Total # Larvae	0	3	1	0	-	7	0	11	

Figure 2. Paddlefish larvae density distribution sampled with round nets at 6 stations in the Yellowstone River, 1995.

Table 6. Larval paddlefish round net densities (no/10,000 ft^3) for site locations and years, Yellowstone River.

Rivermile	1994 left	1994 right	1995 left	1995 right
18.6	3.9	0	-	-
18.5	-	-	1.4	0
16.5	1.0	0	-	-
15.4	4.0	1.0	-	-
15.0	-	-	0.6	0.9
14.6	1.4	1.2	-	-
13.3	-	-	2.6	0.1
11.0	-	-	0.6	0.3
9.0	3.3	1.0	2.3	0.4
2.3	1.1	3.2	1.5	3.1

Table 7. Average larval paddlefish densities (no./10,000 ft^3) sampled at the index station, RM-2.3 R, during the peak larval paddlefish drift period and corresponding flows of the Yellowstone River.

Year	Average Density	Peak drift period with corresponding flow (cfs)

1991	10.1	June 4	29,500
1992	12.3	June 10	14,200
1993	6.3	June 16	38,100
1994	17.4	June 18	21,100
1995	14.7	June 29	35,700

The Yellowstone River is not the only spawning stream for the Lake Sakakawea paddlefish population. The Missouri and Milk rivers are also known paddlefish spawning streams (Gardner and Stewart 1987). A total of 15 paddlefish larvae were collected from 30 samples in the 6½-mile reach of Missouri River above the Yellowstone River confluence during 1995 (Jim Liebelt; personal communication; 1996). Most of the paddlefish collected in the Missouri were sampled later than that found in the Yellowstone. Liebelt sampled 14 of 15 paddlefish larvae during the July 13 sampling period.

A different shaped net was tested for sampling paddlefish larvae. Researchers studying larval white sturgeon have found that a "D" shape net was more efficient at sampling sturgeon larvae than the conventional round type because the shape of the D-net enables it to rest closer to the bottom where larval white sturgeon are known to occur while drifting to rearing areas (Mr. Lance Beckman, USFWS). During the 1994 tests using the D-nets, catch rates of paddlefish larvae averaged better for the D-nets compared to the smaller round nets, however, the D-nets were not as consistent in sampling paddlefish (Gardner 1995).

It was decided to again test the D-net for sampling paddlefish larvae in 1995. Table 8 compares the catch statistics for the two nets. The larger D-net filtered over twice as much water per sample effort as the round nets. This was due to its larger size and greater net velocities. The reason for greater net velocities of the D-nets was related to the procedure of how the net was sampled. While sampling with the D-net enough power was used so that the boat did not drift down river more than 50 yds., whereas, for the round nets the boat and nets commonly drifted down river over 100 yds. while completing a larval fish sample. Therefore, the net velocities were reduced and the nets were kept near the bottom. During the 1995 sampling year larval catch rates were slightly greater for the round net. Paddlefish, the target species, were collected in both types of nets. The D-net sampled paddlefish at a greater density averaging 5.5 paddlefish/10,000 ft^3 compared to 3.9 paddlefish/10,000 ft^3 for the round nets. In spite of its better sampling statistics, the D-nets were not necessarily the better net to sample for paddlefish larvae. D-nets sampled paddlefish larvae on the average of 0.31 larvae/sample compared to 0.15 larvae/sample for the round net. Therefore, two round net samples would collect about the same number of paddlefish as one D-net. Considering the fact that D-net samples are always collected singly but round net samples are collected in duplicates, there does not appear to be any advantage for using the D-nets over the round nets.

Table 8. Comparisons of performance parameters between the D-configuration net and the round larval net, Yellowstone River, 1995.

Parameter	D-shaped net	Round net
Net Opening Size	3.67 ft^2	2.11 ft^2
No. of Samples	35	222
Avg. Volume of water filtered (ft^3)	2,994	1,345
Total No. Larvae	114	445
Avg. Larval Density (No./ 10,000 ft^3)	11.9	15.6
Total No. of Paddlefish Larvae	11	33
Avg. Pdlfsh Density (No./10,000 ft^3) during June 29 prd.[1]	5.5	3.9

[1] Period with the greatest paddlefish larval drift. Only results from samples taken on the same side of the river channel are compared.

Paddlefish Caviar

The Glendive Chamber of Commerce and Agriculture continued their collection of paddlefish roe at Intake for the sixth consecutive year. They also continue to clean fish for anglers in return for roe donation. The cleaning service is very popular and the Glendive Chamber in excess of 90% of the fish caught in the Intake area.

The Chamber cleaned 1,453 fish of which 641 (44%) were females. From those fish 6,225 pounds of raw ovaries were collected. This yielded 4,203 pounds of processed roe from which 4,146 pounds of caviar were sold for $234,698 or $56.61 per pound.

RECOMMENDATIONS

1. Larval fish sampling should continue as a means for evaluating paddlefish spawning success and discovering spawning sites.

2. Improvements in sampling methodology for collecting paddlefish larvae are still needed. Efforts at improving sampling efficiencies along with further study of paddlefish larvae drifting behavior should continue to be addressed.

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Appendix A. Physical measurements accompanying larval fish samples collected with round nets in the Yellowstone River, 1995.

Station Number	Number Samples	Avg. Depth at Station (ft.)	Average Net Velocity (ft/s)	Average Net Volume (ft^3)	Average River Flow (cfs)	Avg. Temp. (F)	Avg. Secchi (ft)
RM-2.3 (L)	14	13.6 (9.0 - 18.5)	2.0 (1.4 - 2.6)	1,419 (1006 - 1833)	36,671 (20900 - 53700)	69 (59-77)	0.2 (0.1-0.4)
RM-2.3 (R)	16	9.4 (8.2 - 12.3)	2.1 (1.0 - 2.8)	1,518 (724 - 2104)	36,671 (20900 - 53700)	69 (59-77)	0.2 (0.1-0.4)
RM-9.0 (L)	16	9.7 (7.3 - 12.5)	1.7 (0.8 - 2.8)	1,246 (561 - 2055)	36,671 (20900 - 53700)	68 (59-74)	0.2 (0.1-0.3)
RM-9.0 (R)	14	11.4 (10.0 - 13.5)	1.8 (0.5 - 2.9)	1,335 (402 - 2119)	36,671 (20900 - 53700)	68 (59-74)	0.2 (0.1-0.3)
RM-11.0 (L)	18	11.3 (9.5 - 13.5)	1.8 (0.9 - 2.5)	1,359 (692 - 1829)	36,671 (20900 - 53700)	68 (62-77)	0.2 (0.1-0.4)
RM-11.0 (R)	16	9.5 (6.0 - 12.5)	1.4 (0.6 - 2.4)	1,042 (459 - 1741)	36,671 (20900 - 53700)	68 (62-77)	0.2 (0.1-0.4)
RM-13.3 (L)	26	10.2 (8.5 - 12.5)	1.7 (0.5 - 2.4)	1,271 (388 - 1801)	36,671 (20900 - 53700)	68 (59-77)	0.2 (0.1-0.4)
RM-13.3 (R)	24	11.2 (8.9 - 13.0)	1.8 (1.2 - 2.4)	1,398 (890 - 1808)	36,671 (20900 - 53700)	68 (59-77)	0.2 (0.1-0.4)
RM-15.0 (L)	16	10.2 (8.5 - 12.5)	2.1 (1.0 - 3.1)	1,571 (717 - 2274)	36,371 (20900 - 53700)	68 (58-74)	0.2 (0.1-0.3)
RM-15.0 (R)	14	9.9 (8.0 - 12.0)	1.7 (0.6 - 3.1)	1,236 (441 - 2327)	36,371 (20900 - 53700)	68 (58-74)	0.2 (0.1-0.3)
RM-18.5 (L)	15	13.5 (8.5 - 18.0)	1.6 (0.7 - 2.3)	1,172 (530 - 1698)	36,371 (20900 - 53700)	68 (59-74)	0.2 (0.1-0.3)
RM-18.5 (R)	16	9.7 (8.0 - 11.5)	1.7 (1.1 - 2.3)	1,239 (830 - 1702)	36,371 (20900 - 53700)	68 (59-74)	0.2 (0.1-0.3)

RM-38 (L)	4	8.8 (8.5 - 9.0)	2.6 (2.2 - 3.4)	1,935 (1660 - 2521)	39,700 (39300 - 40100)	68 (64-72)	0.1 (0.1-0.1)
RM-38 (R)	4	9.2 (8.5 - 10.0)	2.3 (1.7 - 2.8)	1,667 (1278 - 2080)	39,700 (39300 - 40100)	68 (64-72)	0.1 (0.1-0.1)
RM-67 (L)	5	8.0 (7.2 - 9.0)	2.4 (1.8 - 3.3)	1,677 (1370 - 2419)	39,700 (39300 - 40100)	66 (65-68)	0.1 (0.1-0.1)
RM-67 (R)	4	8.7 (7.8 - 9.5)	1.8 (1.2 - 2.1)	1,331 (886 - 1543)	39,700 (39300 - 40100)	66 (65-68)	0.1 (0.1-0.1)

Appendix B. Physical measurements accompanying larval fish sampled collected with D-nets in the Yellowstone River, 1995.

Station Number	Number Samples	Avg. Depth at Station (ft.)	Average Net Velocity (ft/s)	Average Net Volume (ft^3)	Average River Flow (cfs)	Avg. Temp. (F)	Avg. Secchi (ft)
RM-2.3	5	9.8 (7.0 - 11.0)	4.1 (3.5 - 5.4)	3,496 (2931 - 4989)	36,671 (20900 - 53700)	70 (66-77)	0.2 (0.1-0.4)
RM-9.0	5	9.5 (6.5 - 10.5)	3.1 (2.6 - 3.4)	2,582 (2390 - 3086)	36,671 (20900 - 53700)	70 (65-74)	0.1 (0.2-0.3)
RM 11.0	6	9.7 (5.0 - 12.5)	3.4 (2.8 - 3.8)	3,065 (2588 - 3711)	36,671 (20900 - 53700)	69 (66-77)	0.2 (0.1-0.4)
RM-13.3	5	10.9 (9.5 - 12.5)	3.3 (2.8 - 3.9)	2,843 (2571 - 2917)	36,671 (20900 - 53700)	69 (67-77)	0.2 (0.1-0.4)
RM-15.0	5	9.7 (7.5 - 10.9)	4.0 (2.3 - 5.0)	3,250 (2553 - 5360)	36,371 (20900 - 53700)	69 (65-74)	0.2 (0.1-0.3)
RM-18.5	6	10.8 (8.5 - 16.0)	3.0 (1.9 - 3.9)	2,932 (1430 - 3552)	36,371 (20900 - 53700)	68 (60-74)	0.2 (0.1-0.3)
RM-38	2	8.4 (7.2 - 9.5)	3.4 (3.4)	2,842 (2514 - 3164)	39,700 (39300 - 40100)	68 (64-72)	0.1 (0.1)
RM-67	1	9.5	3.1	2,299	39,300	65	0.1